

DELUXE

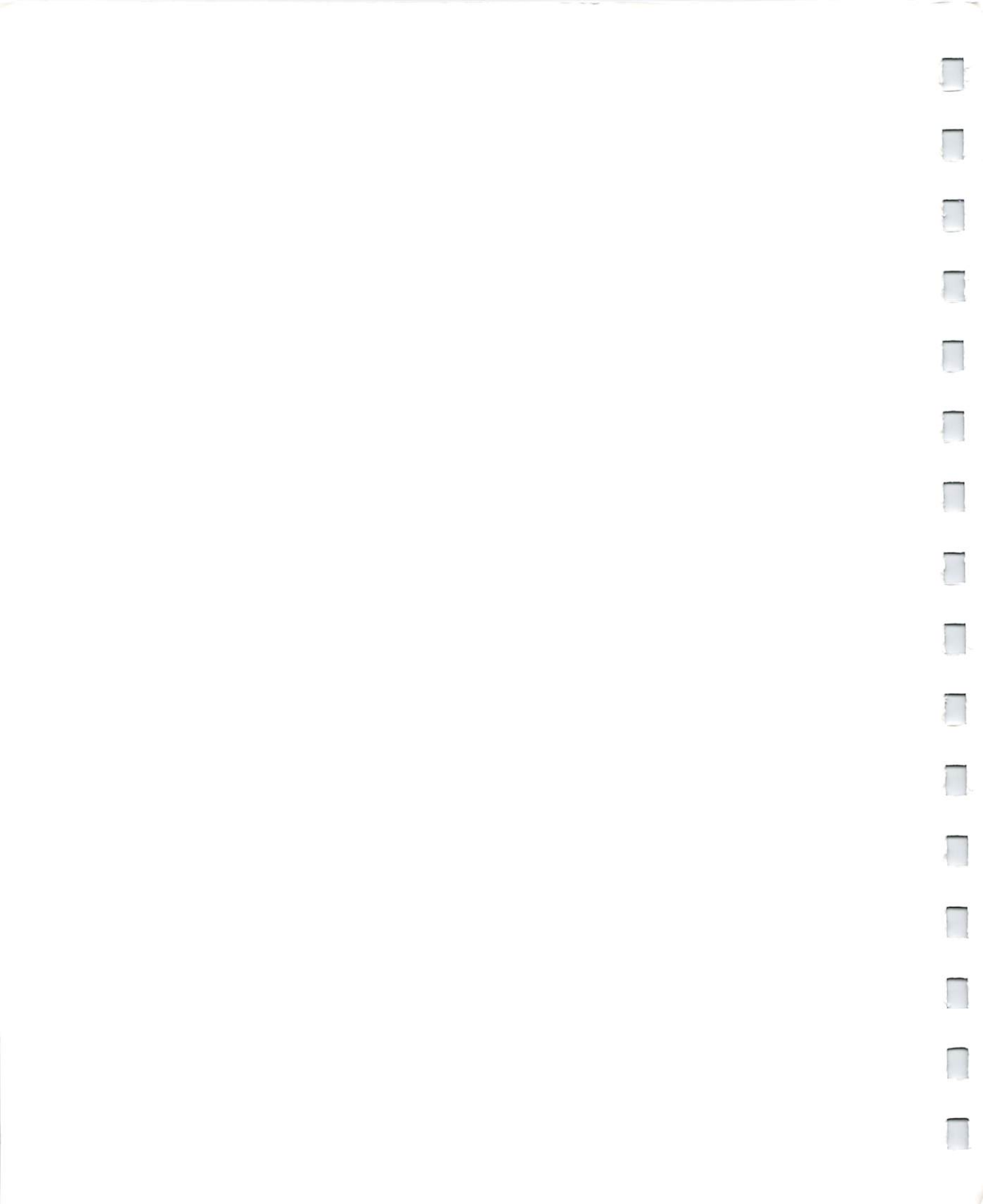
VIDEO



MANUAL
FOR YOUR AMIGA



ELECTRONIC ARTS™
DELUXE CREATIVITY SERIES





VIDEO

MANUAL

MIKE POSEHN AND TOM CASEY

In the early and mid 1970s, Mike Posehn, who has a doctoral degree in electrical and mechanical engineering from Berkeley, was programming minicomputers and leading the way in the areas of data acquisition and control for Lawrence Livermore Labs. Meanwhile, his future partner, Tom Casey, was contemplating pre-med studies at a university near Los Angeles.

At about the same time, a couple of small California companies started dabbling with futuristic devices that some said would never fly — *personal computers*. Mike got a Sol PC, got "hooked" on the possibilities, and became an independent author. Meanwhile, Tom got himself an Apple™, and it was "see-ya-later" to medical studies. What was Lawrence Livermore and the medical profession's loss was personal computing's gain.

As personal computing began evolving into an industry, Mike went on to become one of its brightest stars, developing a number of award-winning programs. Tom, meanwhile, was trying to make some money with his Apple. (Not to mention helping the State of California get rid of medflies!) The two met at a computer faire and joined forces on a project that eventually evolved into Electronic Arts' highly acclaimed desktop work manager, "GetOrganized!" When word came out about the powerful Amiga, they began to plan their next project.

They saw the Amiga as a machine that could fulfill their vision for personal computing. They decided to focus on the area of graphics, animation, and video. As Mike puts it, "We wanted to give people an easy tool to make their own television, and let them control what they watch."

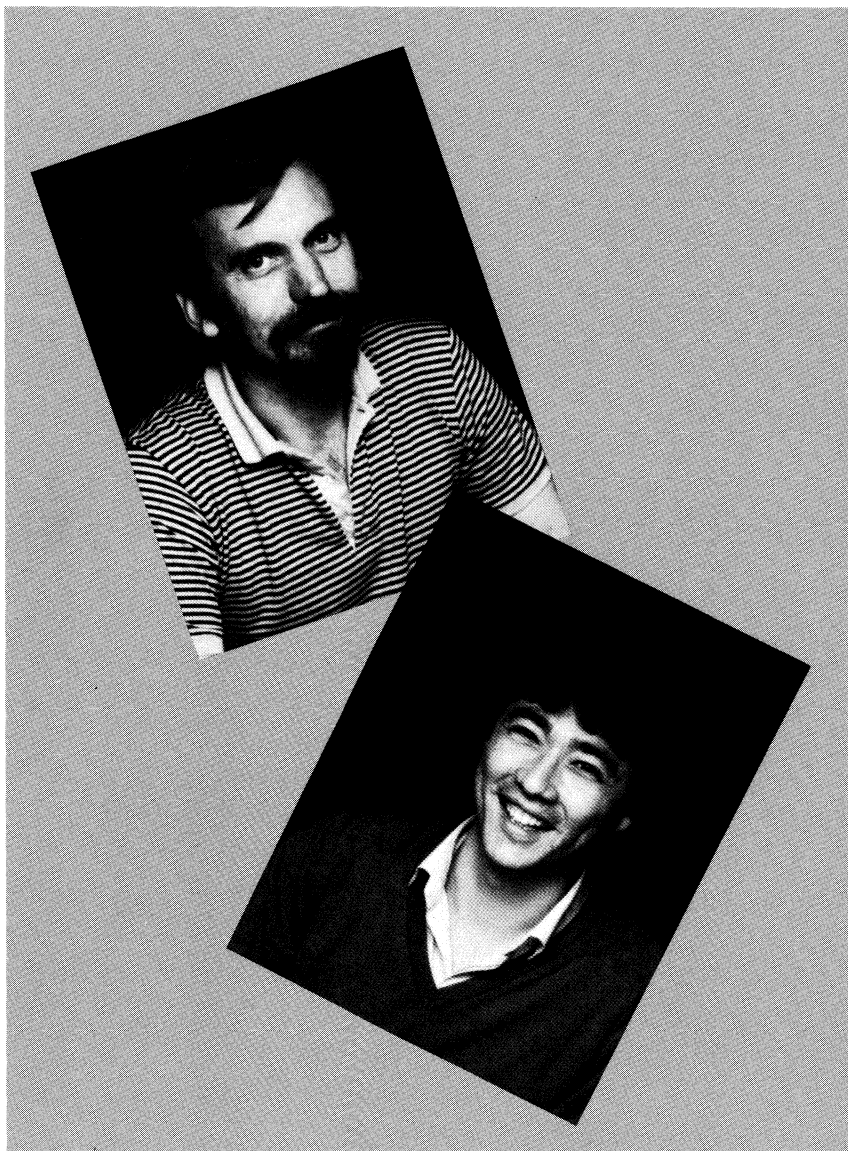




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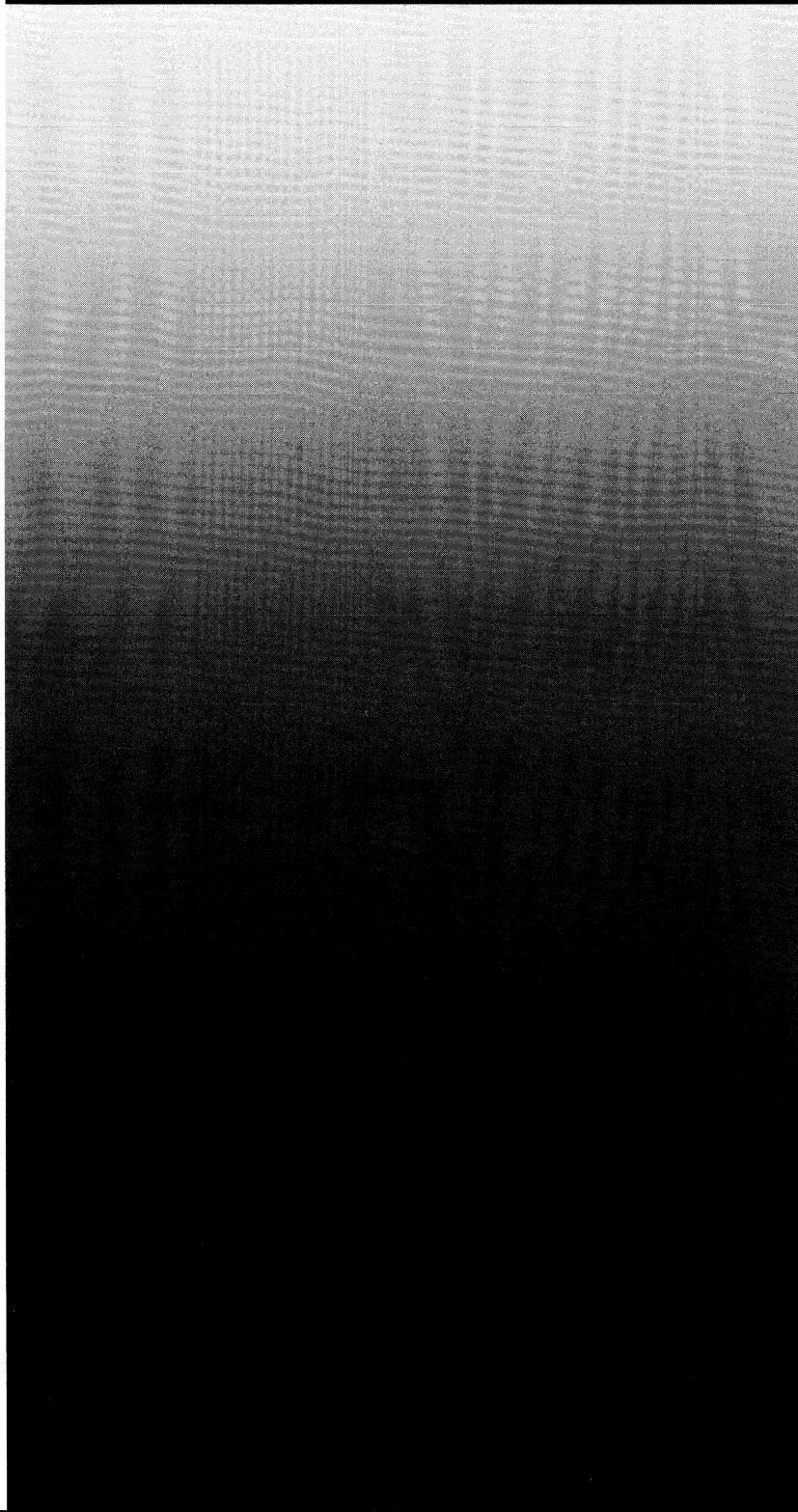
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NOTES



1 OVERVIEW

Next time you watch the evening news, look for the animated graphics in the network identifications. These are computer-generated graphics, animation methods that substitute computer technology for the more time consuming (and tedious) frame-by-frame techniques. By using computer-generated graphics you can create effects in a fraction of the time it would take you using the more traditional methods. For example, you can make a text string appear to spin or rotate in three-dimensional space, or an image wipe over another one, without having to draw 30 frames for each second the effect is on the screen.

DeluxeVideo is a productivity tool that makes it easy to create business presentation graphics, animations, titles and credits for your home videos, as well as a variety of special effects for a multitude of applications. In addition, **DeluxeVideo** lets you use images from other graphic tools like **DeluxePaint** or **DeluxePrint** or musical selections from music software like **Instant Music** or **Deluxe Music**. With **DeluxeVideo**'s special tools, you can animate images, add music and make your own rock videos.

Because **DeluxeVideo** can do so much, it is important to be aware of its many capabilities, even though you may have only one or two particular applications in mind. For this reason, you should take the time to familiarize yourself with this manual, even if it means just skimming through it to see the kinds of things **DeluxeVideo** can let you do. You will be surprised at how much you will be able to achieve with just a little effort.

2 ABOUT THIS MANUAL

The **DeluxeVideo** manual is organized so you can find the information you need quickly and easily. Chapter 1 introduces you to **DeluxeVideo**. The section called "Getting Started" describes the software package and outlines the steps you need to follow to play the demo, a sampling of the many features that you will be able to use in your own videos. "Disk Management" describes the necessary steps for installing your master disks to make your everyday work disks. Chapter 2, "Behind the Scenes," looks at the elements of a video to introduce you to some of the program's basic concepts and tools, such as tracks and effects. "DeluxeVideo Utilities" is a brief introduction to Framer, Unpack, and VidCheck. Chapter 3, "Beginning Tutorials," introduces you to more of **DeluxeVideo**'s features, walking you through a few simple exercises to demonstrate the scope of the program. Chapter 4, "Advanced Techniques," expands on the basics to give you a technical overview of the program, concepts of video planning, and many advanced techniques. Chapter 5, "Applications," gives you a survey of a variety of uses and markets for your **DeluxeVideo** creations. Chapter 6, "Hardware," shows you how you can use **DeluxeVideo** with your VCR, digitizers, and other peripherals to enhance your videos. Finally, Chapter 7, "Reference," is the part you should refer to whenever you come across something that needs further explanation as you embark on your journey to video expertise. In it, you'll also find a section called "Vendor Reference," where you can go to look up vendors, associations, or magazines for future research and development.

3 GETTING STARTED

DeluxeVideo is a three-disk package. The Maker disk lets you create and play back videos, much like a "camcorder" lets you record and play back videotapes. The Player is, as its name implies, a playback-only utility: you cannot use it for creating videos, but you can use it for playing back videos you created using the Maker. Although you can also play back videos using the Maker, there are several very good reasons for using the Player. First, the Player disk is not copy protected, which means that you can copy it (and the video files it contains) to distribute to your friends and business associates. This way you never need to worry about losing or misplacing your master Maker, while also making your videos available to anyone who wants to see them. Second, you can organize your videos by category or subject on a number of Player disks, with each one having instant playback capabilities. Thus, you can use a separate Player disk to store each video you create, and keep all its parts in their respective drawers. In addition, the Player disk contains several demonstration videos that will give you an idea of the scope and power of the program. You can leave the demos on your original Player disk, but you may want to discard them from any copies you make to conserve space. We'll be taking a look at the demos in a short while so you can see the kinds of things you will be able to do with a little practice.

As an added bonus, **DeluxeVideo** includes a third disk, containing parts and utilities such as the Framer, an important animation utility with which you can create animated sequences to include in your videos. Like the Player disk itself, the Framer is not copy protected, which means you can move it onto other disks, giving you the freedom to configure your working disks in the way that is most productive for you. (See the following section on "Disk Management" for information on installing **DeluxeVideo** for your particular system.) This third disk also contains VidCheck, which compresses your videos so they take up less disk space, and Unpack, a utility that lets you disassemble parts from other videos to use in your own (see "DeluxeVideo Utilities" in Chapter 2 for an introduction to using these utilities). You will find these utilities invaluable as you develop your video expertise, but meanwhile, let's run the demo and get a preview of the kinds of things you can do with **DeluxeVideo**.

First, Kickstart your Amiga, insert the Player disk in the drive and wait until it has finished loading. Next, double-click the disk icon called "Player." This opens the Player window, giving you access to the various file drawers as well as the Player itself. Next, double-click the file drawer called "Videos" to reveal the videos it contains. Now double-click the icon (which looks like a videocassette) labeled "Demo" and make yourself comfortable. You will soon be able to duplicate everything you see in the demo, but for now just sit back and enjoy the effects. To make the hand-cursor invisible as the video runs, move it into the lower-right corner of the screen.

The Demo pauses with a list of possible uses for **DeluxeVideo**, and the prompt "To see more, press a key." At this point, the **DeluxeVideo** Player is waiting for you to press the key corresponding to one of the choices. While the Player is waiting, the mouse pointer is displayed as a large question mark: this is your cue to press a key. As soon as you press one of the keys, **DeluxeVideo** will load and run the corresponding video. When that video finishes, the main demo restarts. If you don't press a key within 30 seconds, the Player chooses the first option.

Let's take a look at the remote control unit while the demo is running. Click the right mouse button once (it doesn't matter where the pointer is when you do this). This will bring up the control panel at the bottom right-hand corner of the screen (see **Figure 1**). This is the main control unit, with buttons to Play Forward, Play Reverse, Stop, Rewind, Fast Forward, Fast Reverse, Restart, Skip Forward, Skip Reverse, Single Step and Mute.

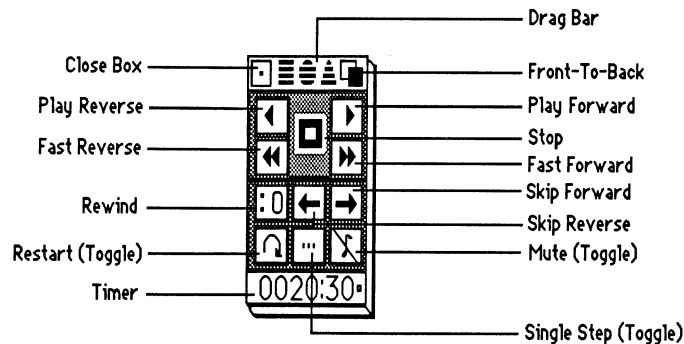


Figure 1: Remote Control

You will also notice three additional features: a timer at its bottom edge, a small box at the top left-hand corner and a "front-to-back" gadget at the top right. Clicking the front-to-back gadget with the left mouse button moves the remote control behind the video screen, out of the way of the video. You can bring it back by clicking the right mouse button at any time while the demo is running. Even though the remote control may be behind the video screen, you still have access to some of its functions through keyboard equivalents. Thus, you can Stop the video by pressing the Down Arrow key; you can Play Forward by pressing the Right Arrow key; you can Play Reverse by pressing the Left Arrow key, and you can make the remote control reappear by pressing the Up Arrow key. This feature comes in handy if you want to record a video on your VCR and control the action without the remote control on the screen.

To skip to the end of a video or scene, press the Skip Forward button on the control panel. The Skip Reverse button takes you back to the beginning of your video or scene. As you watch the demo, feel free to experiment with these functions. With the left mouse button, click Stop, and then click Play Forward to resume the video. Click the Fast Forward and Fast Reverse buttons and watch the video play forward or backward at increased speed. Click the Restart button to make the video restart as soon as it reaches the end. You can toggle this feature off just by clicking the Restart button a second time. The Single Step button lets you step through the video one frame at a time each time you press Play. To end the video, press the close box on the control panel. This ends the current session with the Player and returns you to the Workbench.

4 DISK MANAGEMENT

This section takes you through the steps involved in setting up an efficient *disk-based DeluxeVideo* system. Your **DeluxeVideo** package contains the following three disks:

Maker Key is the **DeluxeVideo** master key disk, and contains the **DeluxeVideo** Maker and a set of drawers containing pictures, objects, sounds, music, and instruments.

Player is **DeluxeVideo**'s unprotected playback disk, and consists of the **Player** and a set of drawers containing demo videos you can play.

Parts and Utilities is, as its name implies, a collection of video parts such as pictures, objects, sounds, music, and instruments. In addition, it contains utilities to help you get the most out of your package. There you will find the **Framer**, an animation utility that makes it easy to create animated sequences, **VidCheck**, a utility that compresses your videos so they take less disk space, and also prints out detailed descriptions of your videos, and **Unpack**, a utility that lets you "disassemble" your videos so you can use their various parts in other videos, or store them in the appropriate drawer. See Chapter 2, Section 5 for additional information about these utilities.

These disks are jam-packed with data files and utilities to enhance your videos. If you use the disks as they come in the package, you might run into "Disk Full" messages, because **DeluxeVideo** is constantly writing to the disks as it constructs your videos. For this reason, it's a good idea to create a new set of work disks so you can work efficiently with **DeluxeVideo**.

You should always run **DeluxeVideo** from a *copy* of the **Maker Key** disk and hold the master in reserve in case your copy is ever damaged. The following instructions contain everything you need to know to use **DeluxeVideo** with your particular hardware configuration. The little time spent now in following these instructions will pay off with interest when you become a **DeluxeVideo** power user.

The following instructions include three different installation

procedures. If you are about to use **DeluxeVideo** for the first time and can't wait to make your own videos, use the "Quick and Dirty" installation immediately following. If you have been through the tutorials and you are already familiar with **DeluxeVideo**, use the "Moving On" installation. And if you're an experienced video jock who's looking for new worlds to conquer, use the last "Getting Serious" installation.

NOTE: You will need some blank, high-quality, double-sided disks for the following procedures.

WARNING: *Never* eject a disk while the disk drive's red "in-use" light is still on. Doing so can result in damage to the disk and loss of information. The result may be unreadable disk that will need to be reformatted — and doing so erases everything on it, a disaster if you haven't made backups!

QUICK AND DIRTY

To get started with **DeluxeVideo**, all you need to do is make a copy of the master Maker Key disk. Once you have made a copy, you can work through the tutorials in Chapter 3 to learn basic video techniques. The following instructions outline the steps for copying the Maker Key disk, renaming it, then deleting the System drawer to create more disk space.

- Make sure the Maker Key disk is write protected. Move the little tab on the upper-right corner so that you can see through the hole.
- Boot your Amiga with the Maker Key disk.
- On a single-drive system, remove the Maker Key disk and insert a blank disk. On a two-drive system, insert the blank disk in df1: (the external disk drive).
- Copy the Maker Key disk onto the blank disk by dragging the disk icon labeled DVidéo onto the blank disk icon. If you have a single drive, you may need to swap between the Maker Key disk and the blank disk several times before you are prompted with

the Disk Copy requester. Click **Continue** to begin the copy. Single-drive users should swap disks as directed.

- After the copy is complete, click on the **copy of DVideo** disk icon and choose **Rename** from the Workbench menu. Click in the name window when it appears on the screen, and use the cursor and Backspace keys to delete the old name. Enter any name *other than* DVideo for your backup copy. (The name DVideo is reserved exclusively for the master Maker Key disk.) You may want to name the disk "Maker" because this is the disk you will be using to make your videos.
- Insert your Maker disk in drive DF0: (the internal drive), and reboot your Amiga. Keep the master *Maker key disk* handy; you will need it each time you start **DeluxeVideo**.
- When the Workbench reappears, double-click the Maker disk icon to open its window.
- Now discard the drawer named System to make more room on your Maker disk. Click on the System drawer icon, then choose **Discard** from the Workbench menu.

From now on, boot your Amiga with your Maker disk when you want to use **DeluxeVideo**. Open the Maker disk icon in the Workbench window and double-click the DVideo icon. **DeluxeVideo** will ask you to insert the master Maker Key into any drive to verify the original disk. After this process you can reinsert your Maker disk and put the Maker Key disk away for the rest of the work session.

DeluxeVideo is a large program and not all of it can reside in memory at the one time. For this reason you should keep the Maker disk in the drive so that portions of the program can be loaded into memory as needed. If you are using a one-drive system, however, you can temporarily remove it and insert other disks to load video parts such as pictures, objects, sounds, and music.

Your disks are now ready for the tutorials in Chapter 3, although you may want to read Chapter Two to learn about basic concepts. After you have finished the tutorials, you may want to return here and reorganize your disks using the procedures found in the section "Moving On" immediately following.

MOVING ON

If you have worked through the tutorials and have created the sample videos, you are now ready to strike out on your own. First you need to create a working copy of the Parts and Utilities disk, make more work space on your Maker disk, and create a storage disk containing the DVideo Player where you can store your finished videos. With the DVideo Player on your storage disks, you can play your finished videos at any time without having to boot the Maker disk or load DeluxeVideo.

If you are using only one disk drive, you can store the video on your Maker disk as you build it. When the video is finished, you can use the Workbench to transfer the video onto a video storage disk. With a two-drive system, you can keep the Maker disk in df0: and the video storage disk in df1:.

COPYING THE PARTS AND UTILITIES DISK: The first task is to make a working copy of the Parts and Utilities disk. You will find yourself using the Parts disk more and more as you become more prolific because it contains a number of objects, pictures, songs, and utilities that you'll want to use in your own videos. To back up your Parts and Utilities disk, use the same procedure you used to create your Maker disk; only this time, boot with the original Parts and Utilities disk rather than the Maker Key. (See "Quick and Dirty" above.) When the copy is complete, rename **copy of Parts** as **Parts**. Finally, **Discard** the Framer, VidCheck, and Unpack to make more room on the disk.

MAKING ROOM ON YOUR MAKER DISK: Next, we need to create as much work space as possible on your Maker disk. This is especially important for single-drive users. Use the following procedure:

- Boot your Amiga with your Maker disk.
- In the Workbench, open the Pictures drawer on the Maker disk.
- Open the Pictures drawer on the Maker disk and **Discard** all of the parts to make more room.

- Close the Pictures drawer.
- Repeat steps 2 through 4 for the Objects, Sounds, Music, and Instruments drawers.

At this point you should have a Maker disk with the maximum amount of disk space. Now when you use **DeluxeVideo**, you can load parts that you need for your video from the Parts and Utilities disk. Use the **Data Drawers** command from the Options menu to specify the drawers and disk drive you want to use to load and save your videos and video parts. **DeluxeVideo** loads the part into memory and then prompts you for the disk it needs to write the part into your video. When you have your data drawers and disks organized the way you want them, use the **Snapshot** command from the Options menu to save the configuration for future use.

GETTING SERIOUS

As you develop your knowledge of **DeluxeVideo**, you'll want to get the most out of the program and the Amiga. To do this, you will need to carefully plan and organize the data on your disks. For example, if your videos are getting too big for your storage disk, you can make more room by creating a new storage disk, but one that won't be a bootable Workbench disk. To make your new storage disk, boot your Amiga Workbench disk and initialize a new blank disk. Then copy data from one of your existing storage disks by dragging the Videos, Pictures, Objects, Sounds, Music, and Instruments icons onto the freshly made disk. The result is a disk with the maximum possible amount of room. In addition, you can use **Unpack** to disassemble parts from other videos (such as the demos, for example), and **VidCheck** to compress your videos so that they take up less disk space. Both of these utilities are "screen-driven" and prompt you whenever any action is required from you. See Chapter 2, Section 5 for information on these utilities.

When using **DeluxePaint** to make pictures and objects, save them directly on your Parts disk in the Pictures and Objects drawers (instead of **DeluxePaint**'s Lo-Res and Brushes drawers).

You can use the **Framer** on the Parts and Utilities disk to create your own animated objects. (Even though you discarded it from the copy

you made of the Parts and Utilities disk, it should still be on your original; just move it over on the Workbench). Also, you can create an animation sequence using **DeluxePaint**, save it in the Pictures drawer of the Parts disk, then animate the sequence with Framer. Save the finished animated sequence as an object in the Objects drawer. See Chapter 4, Section 3 for more information on using **DeluxePaint** images with the Framer.

To use music from **Instant Music** or **DeluxeMusic**, be sure to copy the instruments you need into the Instruments drawer on your Parts disk before trying to load the music into a video.

USING A RAM DISK

If you have more than 512K of RAM, **DeluxeVideo** uses the additional memory as a RAM disk. This has the effect of 1) speeding up the operations of your **DeluxeVideo** Maker program and 2) eliminating disk-loading delays when running videos. A RAM disk is not an actual disk, but a portion of the Amiga's memory that is set aside to "simulate" a disk drive. Anything in a RAM disk is already loaded in memory and is available without having to wait while it loads from a floppy disk.

DeluxeVideo creates the RAM disk automatically, when it determines that you have a minimum of 100K of expanded memory free.

To speed up your **DeluxeVideo** Maker program, copy it into the RAM disk. Point to the Maker camera icon, and, while holding down the left button, drag it over the RAM Disk icon. **DeluxeVideo's** Maker program will be copied into the RAM disk. When it has finished copying, you can eject the Maker disk, and you're ready to go.

To eliminate disk-loading delays during playback of a video, place a copy of the Video drawer onto the RAM disk by dragging the Video drawer from the Maker disk onto the RAM Disk icon. Now move your video into the Video drawer on the RAM disk, and remove any unwanted videos. Then use the Data Drawer option from the Options menu and name the drawer RAM:videos. Now while you're running your video, its parts are loaded quickly as needed from the RAM disk with no disk-loading delays. The results: a video that runs faster and more smoothly!

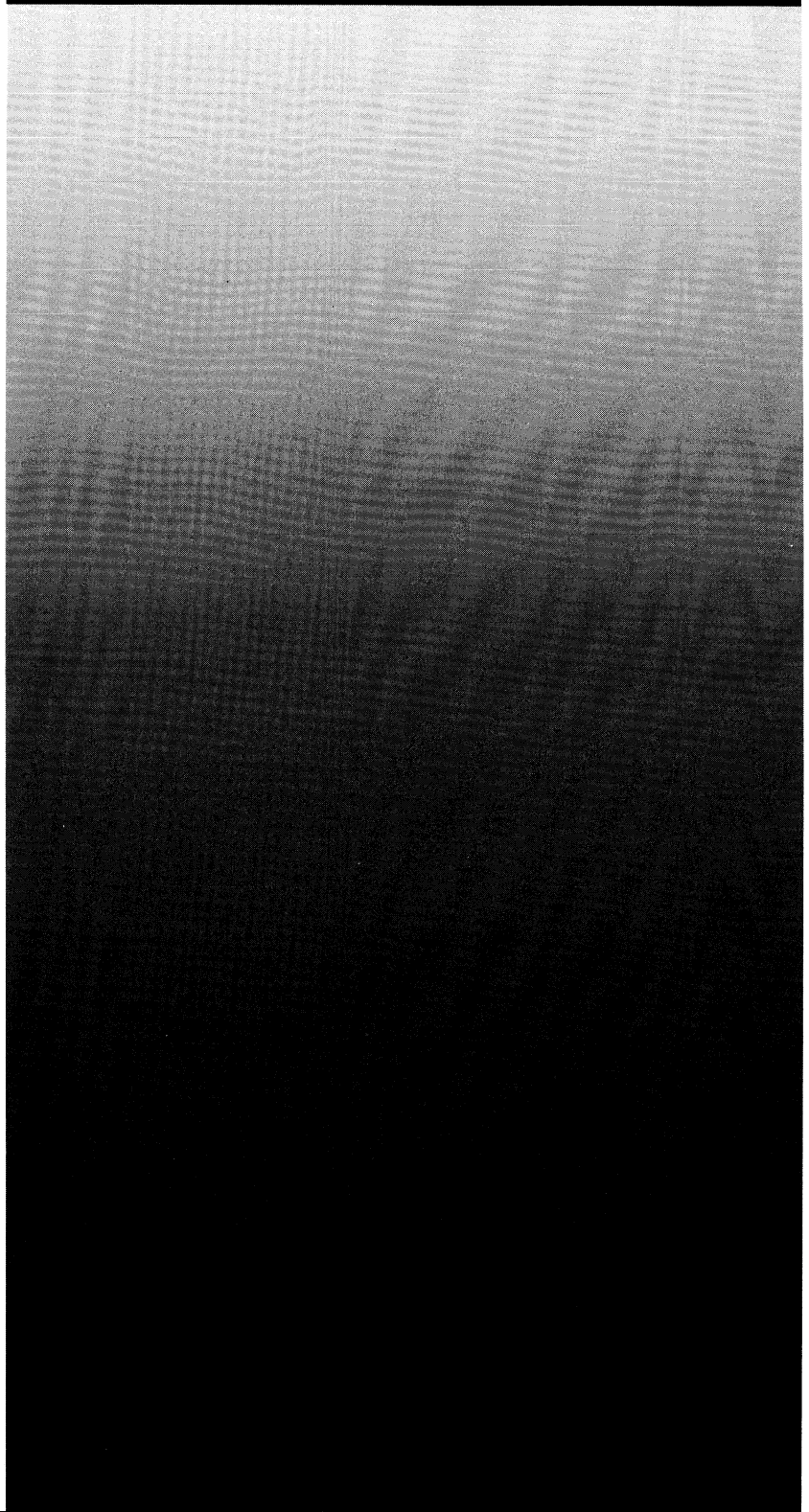
Warning: If you lose power or accidentally turn off your computer, everything in your RAM disk will be lost. To avoid such disasters, make sure you save your video to disk often. Most importantly, make sure you save it to disk before you end your work session.

Note also that when you edit a video in RAM, it is possible to create a video file larger than 440K (larger than you can save to disk using **DeluxeVideo**), or even larger than 880K (larger than you can save onto a floppy disk).

If your video is between 440K and 880K in size, first save it to RAM. Then access the Workbench by shrinking the Video Script window, and drag your video from the RAM disk onto your work disk. You will need to drag it back onto the RAM disk if you wish to edit it with the Maker. The Player can play videos larger than 440K.

Note: If you ever need to assign more RAM to your Part Pool (in order to produce a video with a large number of simultaneous objects and sounds), see Chapter 7, Section 6, "Memory Size."

CHAPTER TWO: BEHIND THE SCENES



NOTES



In this short chapter we will be looking behind the scenes at the substructure of a video, to give us a better idea of how to put one together. Although you can work through the tutorials in Chapter 3 without reading this chapter, it will help you see the "big picture" and make things easier to understand in the long run. The chapter ends with a brief introduction to the **DeluxeVideo** utilities.

1 THE VIDEO HIERARCHY

DeluxeVideo uses a hierarchical structure. This means that you can move from the macroscopic to the microscopic or from the general to the detailed through a series of layers, each with its own complement of tracks and effects. This hierarchical relationship is illustrated in Figure 2.

Note that the highest level of the hierarchy is the *Video Script*, the basic storyboard or blueprint of a video. The Video Script consists of one video track and up to four other types: *Background*, *Foreground*, *Control*, and *Music*. (You can also have more than one Music track in your video.) Each of these controls one of the main elements of the video, and operates independently of the others. As we shall see below, tracks are analogous to sound or music tracks on film or video — they can be "spliced" onto the main video track to provide additional elements to round out the visual display.

The video track consists of one or more scenes, which are analogous to scenes in a play. Scenes can be created and modified independently of each other, but, like scenes in a play, they cannot overlap. Each scene on the video track can be "opened" to reveal its *Scene Script*, the next level in the video hierarchy. The Scene Script is analogous to the Video Script and plays a similar role by letting you storyboard the action as a function of time (which, as we shall see later, runs from left to right in both kinds of scripts). Like Video Scripts, Scene Scripts are made up of a number of tracks, each of which contributes an element to the final video. **DeluxeVideo** recognizes up to eight different kinds of tracks at the scene level.

As we move further down the hierarchy, we find that each track in a Scene Script is made up of one or more *Effects*, which, through their corresponding *Requesters*, control the specific details of the action taking place on the screen. Thus, for example, a Wipe Effect replaces one image on the screen with another, but the particular

way it does this (e.g., from left to right, top to bottom, etc.) is controlled through the Wipe Effect Requester. We will be covering each of these in detail later, but for now you should just try to understand how all the parts fit together.

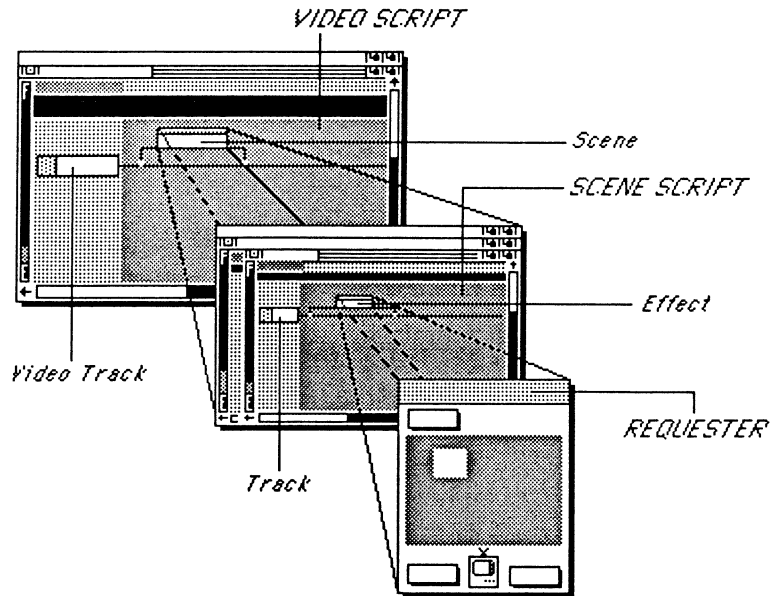


Figure 2: DeluxeVideo's Hierarchical Structure

As we examine the various scripts, tracks, and effects that make up a video, you might want to follow along on your Amiga. Just do a "warm boot" (by pressing the CTRL and both Amiga keys at the same time) with the Maker disk in the drive and then double-click the Maker disk icon. When the disk window appears, double-click the DVideo program icon (the one that looks like a video camera). You will be asked to insert the Maker Key disk ("Disk DVideo") while *DeluxeVideo* checks the registration numbers. You will then be able to replace the Maker disk in the drive, after which you can put the Maker Key disk away for the rest of the session.

2 THE VIDEO SCRIPT WINDOW

As mentioned above, the highest level in the video hierarchy is the Video Script, the overview of the entire video. The Video Script window (see Figure 3), which appears each time you start DeluxeVideo, is the videographic equivalent of a blank canvas or a blank sheet of paper. Let's take a closer look.

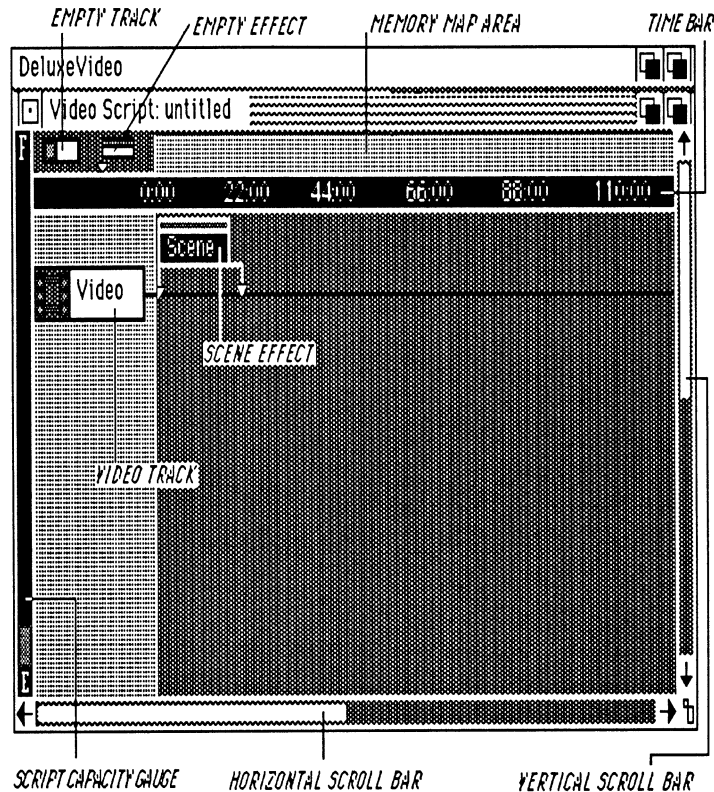


Figure 3: Video Script Window

Note the two boxes at the top left-hand corner of the window. These are the empty Track and Effect boxes. The one on the left is an empty track, while the one on the right (with the colored bar at the top) is an empty effect. Further down the window and to the left of the vertical bar you will notice a track that is already in place. Note that this track is labeled "Video," meaning that it is a video track. As we saw earlier, *DeluxeVideo* recognizes four other kinds of tracks at the Video Script level: Background, Foreground, Control, and Music. We will be looking at these more closely in the following sections, but for now you just need to be aware of how tracks and effects coexist and interact.

Directly below the empty track and effect boxes, you will see a horizontal bar with a series of numbers moving from left to right. This is the time bar, which helps you keep track of the amount of time used by each effect. The figure to the left of the colon represents time in seconds, while the figure to the right represents time in "jiffies" (60ths of a second). You can modify the time scale through the Options menu (see Chapter 7, Section 6).

Below the time bar is the Video Script window proper. You will notice that the Video track already has one effect box, labeled "Scene." Note also that this Scene Effect is resting on two arrows that extend to the video track. These two arrows together determine the duration of the effect. The leftmost arrow (the "On arrow") determines the onset or beginning of the effect, while the rightmost arrow (the "Off arrow") determines the end of the effect, and hence its duration. In "Manipulating Tracks and Effects" below, we will learn how to manipulate the placement of these arrows as well as the placement (and orientation) of the effect box itself just by clicking and dragging. Meanwhile, note that the On arrow is at 0:00 and the Off arrow is at 22:00 seconds.

The vertical bar at the left-hand side of the Video Script window is the Script Capacity Gauge, and monitors the amount of memory your video is using. If the gauge starts filling up, you can always start a new video and Chain it onto the old one (see Chapter 7, Section 5, "Chain" and "KeyChain") for more information on Chaining videos together).

On the right-hand side and at the bottom of the Video Script you will notice two "scroll bars." These provide a means of scrolling through the script window, because not all of the window is visible

on the screen at one time. You can scroll up or down the window by moving the mouse pointer to the appropriate arrow and holding the left button down. Alternatively, you can "drag" the scroll bar up or down, or you can simply click in the grey area above or below it to move up or down one screen. You can scroll left and right by using the same technique.

3 THE SCENE SCRIPT WINDOW

The next level in the video hierarchy is the Scene Script, which has its own window and its own complement of tracks and effects. As we noted above, each scene in a video has its own scene script.

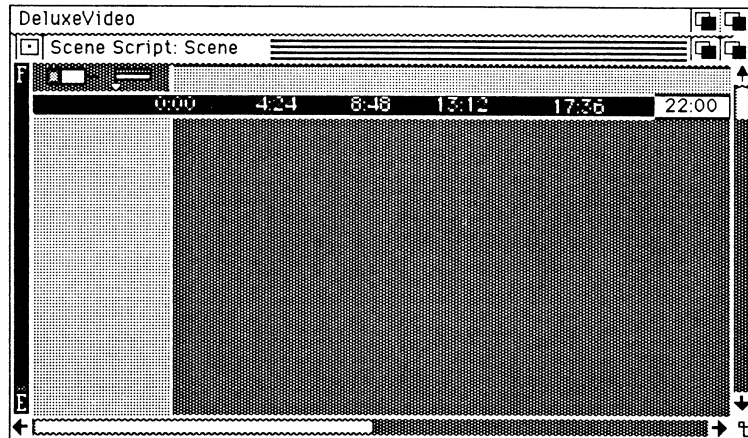


Figure 4: Scene Script Window

To open a scene script window, double-click its scene effect or highlight it by clicking it once and then select **Change** from the Edit menu. The resulting window is just like the Video Script (taking its place on the screen), with empty track and effect boxes, but with the name "Scene" on the title bar (see Figure 4). Note that like the Video Script, the Scene Script also contains a Capacity Gauge on the left and scroll bars at the right and bottom.

4 MANIPULATING TRACKS AND EFFECTS

In this section we will learn how to manipulate track and effect boxes within a Video or a Scene Script. If your screen is not showing a fresh Video Script, select **New** from the **Project** menu.

To create a new track in the Video Script (remember, you can have up to five different tracks), drag an empty track from above the time bar and place it below the Video track. **DeluxeVideo** will ask you what kind of track you want to add, and will present you with four possible choices (see **Figure 5**). For now, select **Background** by clicking that gadget. **DeluxeVideo** will then name the new track accordingly. Now drag down another empty track, and this time make it a **Foreground** track. Make sure you leave enough room between tracks to accommodate the effect boxes. If you need to, you can scroll up and down or left and right by using the scroll bars at the right or the bottom of the window.

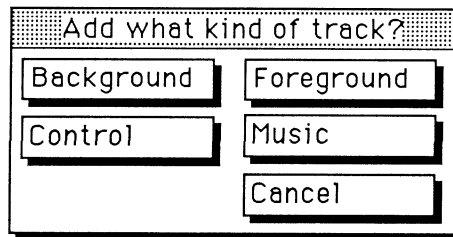


Figure 5: Video Script Track Requester

Now let's see what happens when you place an effect box on the **Background** track. Drag an empty effect box onto the **Background** track. Because you can have more than one kind of effect on a **Background** track, **DeluxeVideo** asks you to specify which kind you

want to add (see Figure 6). You make your selection by clicking the appropriate gadget, but for the moment let's just look at the available options, so click **Cancel**. Next, drag an effect box onto the Foreground track and take a look at its corresponding set of effects, and so on through all the tracks. We will be taking a close look at each of these in the tutorial section, but if you can't wait to find out about each of these effects, feel free to consult the Reference section at any time.

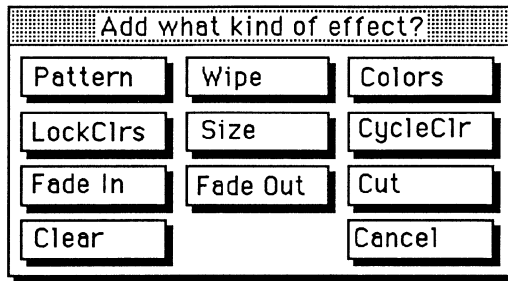


Figure 6: Effect Requester

As we noted earlier, the On and Off arrows determine the beginning and end of an effect, and operate the same way in Video and Scene Scripts. To move an On arrow, place the mouse pointer so that its tip or "hot spot" (the top left corner) touches the arrow. When you press the left mouse button you will notice a box appear just above the time bar. The numbers in that box tell you the On arrow's current position on the time scale. Now while holding the left mouse button down move the mouse (and hence the pointer) left and right along the track. Notice that as you do so the numbers in the box change to reflect the new position on the time scale. You should also see both the On and Off arrow moving back and forth, not just the On arrow. This is because **DeluxeVideo** keeps the duration of the effect constant as you move its onset back and forth. You can change the effect's duration by moving the Off arrow in the same way: place the tip of the pointer on the marker, hold the left mouse button down and drag it to its new location. As before, the box above the time bar lets you monitor the Off arrow's position. Because the Off arrow actually determines the effect's duration, the box above the time bar displays duration (i.e., the time difference between the beginning and the end of the effect) rather than absolute position on the time scale.

To move the entire effect box (arrows and all), place the tip of the pointer on the colored bar at the top of the box (the "Drag Bar") and drag it just as you did the arrows. You would need to do this if you wanted to reposition an effect on the track without disturbing its duration. You can also reposition or reorient an effect box without affecting the placement of the On and Off arrows on the track, by placing the tip of the pointer in the title bar (below the drag bar) and dragging the box to its new location, which can be either above or below the track. You would need to do this to rearrange the effect boxes along the track to make them easier to recognize, for example, but without disturbing any other relationships. Try your hand at these techniques for a while, to make sure you understand the function and purpose of each one.

With minor variations, you can carry out the same operations within a Scene Script as you did in the Video Script. For example, you can pick up a new track and move it to the left of the vertical line, just as you did in the Video Script. Note that you are given some additional choices for the kind of track, including Picture, Object, Sound, Text Line, and Polygon Text. Figure 7 summarizes the available tracks and effects for both Video and Scene Scripts.

Video		Scene	
Tracks	Effects	Tracks	Effects
Video	Scene.	Sound	Fetch, Play
Control	Chain, Keywait, KeyChain.	Control	Chain, Keywait, KeyChain.
Background	Clear, Wipe, Colors, LockClrs, Size, Cut, CycleClr, Fade In, Fade Out, Pattern.	Background	Clear, Wipe, Colors, LockClrs, Size, Cut, CycleClr, Fade In, Fade Out, Pattern.
Foreground	DisApp, Clear, Colors, Stamp, Strobe, LockClrs, CycleClr, Fade Out, Pattern.	Foreground	DisApp, Clear, Colors, Stamp, Strobe, LockClrs, CycleClr, Fade Out, Pattern.
Music	Fetch, Play, Half Vol, Dble Vol.	Text Line	Appear, DisApp, Move To, Stamp.
		Object	Fetch, Appear, DisApp, Move To, Stamp, Size, AnimSeqn, AnimCycl.
		Picture	Wipe, Load, FadeIn, FadeOut, Cut.
		Polygon Text	Appear, DisApp, Move To, Stamp, Size, Rotate To.

Figure 7: Table of Tracks and Effects

As you can see, **DeluxeVideo** gives you a wide variety of tracks and effects at both the Video and the Scene level. Specifically, **DeluxeVideo** gives you five kinds of tracks at the Video level and eight at the Scene level. In addition, you have a total of 27 kinds of effects at your disposal, giving you the power to create videos of unlimited variety.

5 DELUXE VIDEO UTILITIES

DeluxeVideo contains the following three utilities to help you create better videos:

THE FRAMER

The Framer is an animation utility that lets you create animated sequences using **DeluxePaint** or other IFF compatible files. Once you create an animation sequence using the Framer, you can save it as an object in your Objects drawer and use it in your videos as you would any other object. The Framer is the subject of an extensive tutorial in Chapter 3. See also discussions in Chapter 4, Section 3 and Chapter 7, Section 5, "AnimCycle" and "AnimSeqn."

NOTE: If you use the Framer, make sure you return your Warranty Card to Electronic Arts so you will receive announcements about Framer updates.

UNPACK

Unpack is a utility that disassembles parts from existing videos for use in other videos. Thus, you can use parts from the demo videos (such as objects, pictures, sounds, etc.) in your new creations. To use Unpack, click the video file you wish to unpack and then Shift-double-click the Unpack icon. You can have the Unpack utility on one disk and the video file on the other, or you can put both on the same disk. In either case, you should make sure that you have a complete set of parts drawers on your storage disk. You will be asked to specify whether to unpack **Some** or **All** the files in the video. If you choose **Some**, **DeluxeVideo** will present you with each file in the video and ask you if you wish to Unpack it.

VIDCHECK

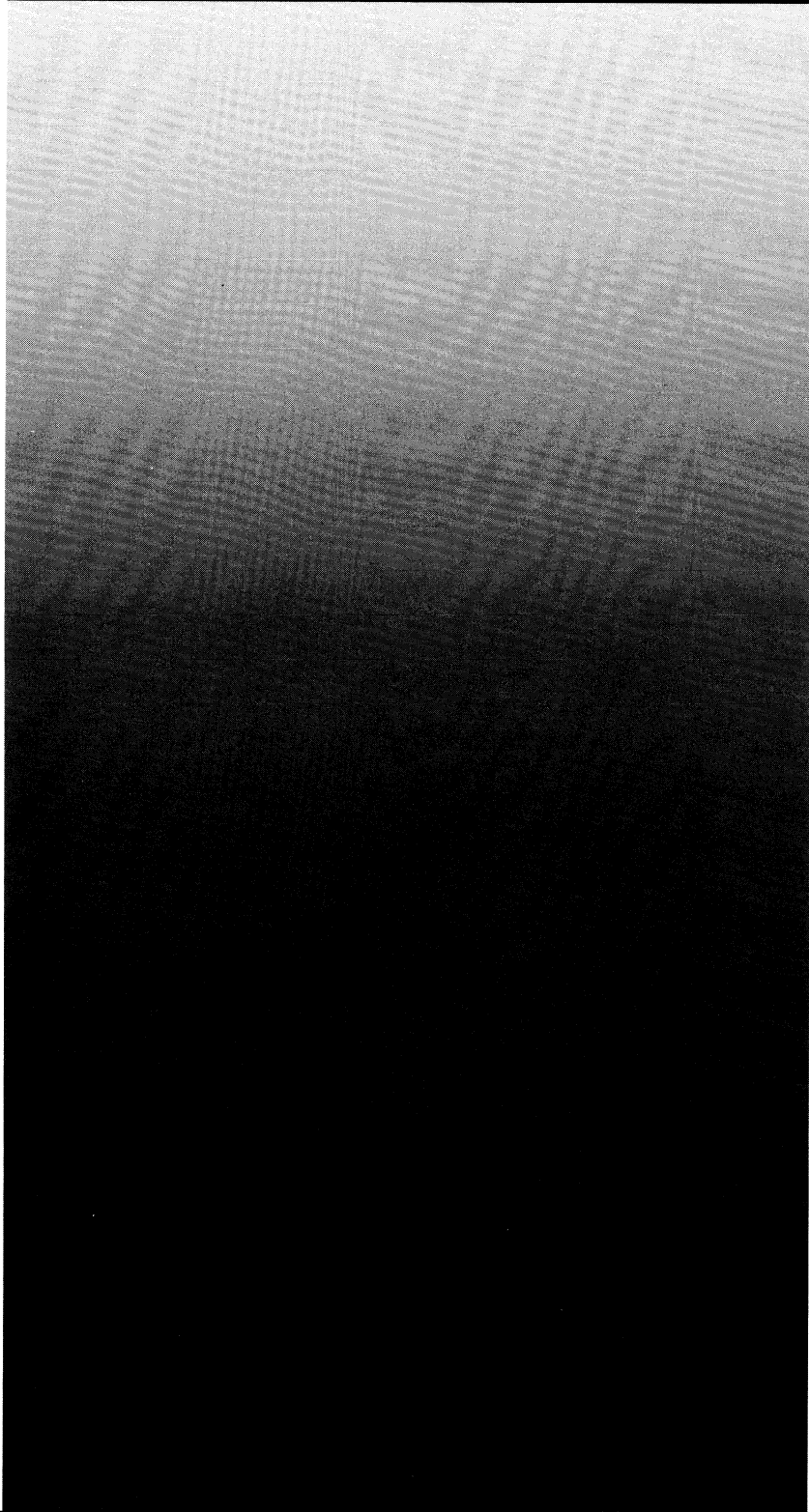
VidCheck lets you compress videos (by removing unnecessary tracks and other superfluous parts) so that they take up less room on the disk. It also lets you print a textual description of the video file for your records, summarizing memory usage, tracks and effect, parts,

etc. To use VidCheck, click the video file you wish to compress and /or print and then Shift-double-click the VidCheck icon. VidCheck will then ask if you want to **Compact** the file first or just **Print** it. VidCheck will also ask if you want to display the output on the screen or send it to the printer. If you choose Printer, make sure you have the correct printer Preferences set. You may want to copy your Workbench disk, move your VidCheck utility onto it, and use it for VidCheck purposes.

If you choose to display the information on the screen, it will continue scrolling until you press the Spacebar. You can start it scrolling again by pressing Return.

DeluxeVideo is a powerful special effects generator that lets you create video effects quickly and easily. Like any powerful program, however, it requires a little practice to reach a level of expertise. To get the most out of the program, therefore, we recommend that you work through the Tutorials immediately following in Chapter 3. Before long, you will find yourself transformed from a nervous tyro to a confident videophile-about-town.

NOTES



NOTES

Because of **DeluxeVideo**'s scope and depth, it would be impractical to list all its features without some step by step examples as illustrations. For this reason we have designed a few simple exercises to get you started on your road to video expertise, where you will be able to create impressive videos like the ones you saw in the demos. In this section we will be building a simple video from scratch, and then embellishing it by using some of **DeluxeVideo**'s special effects. We'll begin by animating a space shuttle, and then we'll modify it by adding a sound track, changing its colors and movement, and so on. We have also included a tutorial on the **Framer**, **DeluxeVideo**'s animation editor. With the **Framer** and a set of **DeluxePaint** (or other IFF-compatible) pictures, you will be able to create videos of professional quality.

1 LAUNCHING THE SHUTTLE

In this tutorial you'll learn about adding a background picture, moving a foreground object, and adding sound effects. We'll begin by building a simple video using images of the space shuttle. First, clear the work space by selecting **New** from the **Project** menu. Open a **Scene** effect by double-clicking the scene effect box or by selecting it (clicking it once) and selecting **Change** from the **Edit** menu. Next, drag down a fresh track and select **Picture** when you are asked to specify the type of track. This will present you with a **Picture Requester** (see **Figure 8**).

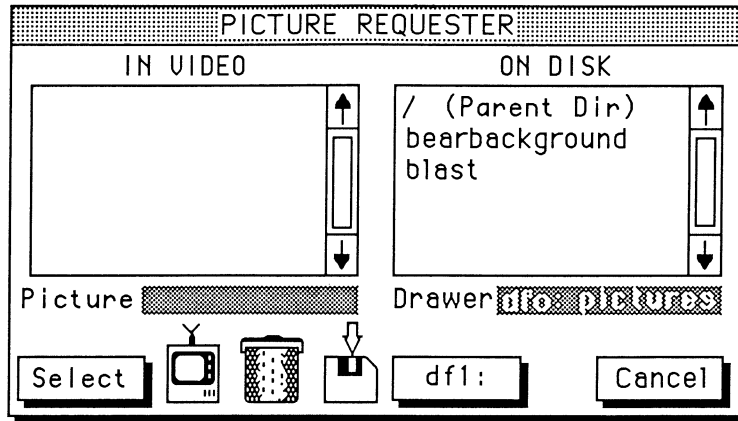


Figure 8: Picture Requester

LOADING A PICTURE

Our next task is to load the picture we want to use into memory. To do this, click the name "Blast" in the On Disk window. When that picture has finished loading, you can preview it by clicking the TV icon at the bottom of the requester. This will bring up the video screen, which normally lives behind the other windows. To return to the Picture Requester, click the "front-to-back" gadget at the upper right-hand corner of the video screen (the second one from the right). Click Select in the Picture Requester to get you back to the Scene window with the "Blast" picture in the video workfile. (The video workfile is an area on the Maker disk that **DeluxeVideo** uses for making temporary working files. This is why you need to leave additional space on your Maker disk as you work.) You will notice that the name of the track has become "Blast," because it now represents that picture.

ADDING A BACKGROUND PICTURE

Next we need to install this picture in our video as a background

picture. Pull down an empty effect from the top of the Scene window and place its On arrow on the "Blast" track. When you are asked to specify the type of effect, select "Load" by clicking that gadget in the resulting requester box. This will produce a Load Effect Requester, asking you to choose between Cut and Get Ready (see Figure 9).

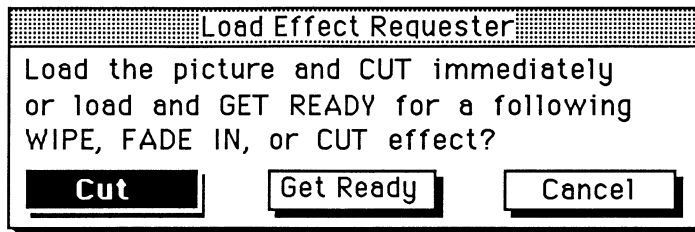


Figure 9: Load Effect Requester

Note that the default value is Cut, which means that when the picture appears for the first time it will appear instantly. The other choice prepares the scene for a wipe or a fade in, a gradual appearance of the image. Click Cut. When you return to the Scene window, adjust the On arrow by dragging it so that the scene starts at 0:03 seconds. (Suggested placements of the On and Off arrows provide the best subjective timing of the underlying effects. Of course you are free to select other values if you wish.) Select Play Scene from the Project menu to taste the fruits of your labor to date. It may not look like much so far, but hold on, the best is yet to come. As soon as you are ready to move on (you don't have to wait for the scene to finish) just click the remote control's close box. This will return you to the Scene Script.

ADDING A FOREGROUND OBJECT

Now let's add the space shuttle to our video. First, while you are in the Scene Script, drag down a fresh track and place it under the "Blast" track. As before, you will be asked to specify the kind of track to add. This time, select "Object." When the Object Requester appears, click the name "Shuttle" in the On Disk window. This will load that object into memory. Click the TV icon for a preview

of the new object together with the background we loaded previously. To go back to the Object Requester, click the front-to-back gadget as before. Finally, click **Select** to complete the process and return to the Scene Script, where you will see that the name of the track is now "Shuttle."

Incidentally, whenever you load a new picture or object, you should pay close attention to its color palette and to the possibility that it may affect the palette of the existing picture or object. Generally, the last-loaded palette will prevail (and modify the existing palette in the event of a conflict), although you can retain the existing palette by using the `LockClrs` effect. For more information on this feature, see Chapter 4, *Advanced Techniques*, and the discussion of the `Colors` and `LockClrs` effects in Chapter 7, Section 5.

BLAST OFF

Now let's make the object (the space shuttle) appear, take off from its launch pad, and disappear off the top of the screen. First, drag down an empty effect and place it on the "Shuttle" track. When you are asked to specify the type of effect, select **Appear**, because that's what we want the shuttle to do. This will produce a further requester (the **Appear Requester**, see Figure 10).

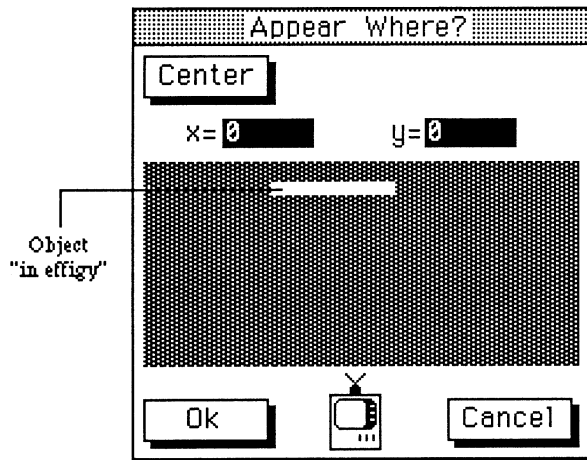


Figure 10: Appear Requester

Before you make any selection, however, click the TV icon to see what is happening on the screen. This will bring up the video screen showing the space shuttle on one part of the screen and the launch pad on another.

Our first task is to move the shuttle so that it sits on the launch pad. You can use either of two methods to move objects on the video screen, depending on the degree of precision you require. First, you can move the object around the video screen by dragging it with the mouse pointer. Just point at the shuttle, and, while holding the left mouse button down, drag the image across the screen. This method gives you a little more control over the final placement of the object. You can also move an object within the requester itself just by dragging its "effigy" anywhere within the window. To return to the requester, click the video screen's front-to-back gadget or drag the video screen down via the drag bar at the top. Now drag the rectangle which represents the object around the requester window. Note that when you drag the rectangle to the edge of the window, it is actually offscreen in the video screen. You would use this method if you wanted an object to "appear" offscreen, and the video screen method if you needed to position the object with more precision. Because we need to position the shuttle on the launch pad, we'll use the video screen method for this exercise. So return to the video screen and drag the shuttle until it is sitting next to the launch pad. Note that a set of x and y coordinates gives you immediate feedback as you move the object around the screen. Both *Appear* and *Move To* requesters provide this feature to help you position objects more accurately. When you are satisfied with its position, return to the *Appear Requester* and then click **OK** to get back to the Scene window. Move the effect's *On* arrow to 0:03 seconds.

So far, we have a shuttle sitting on its launch pad waiting for blast-off. Now we need to move it from there to the top of the screen and beyond. To do this, drag down a new effects box and place it on the "Shuttle" track. This time when you are asked to specify the type of effect, choose *Move To* (see Figure 11).

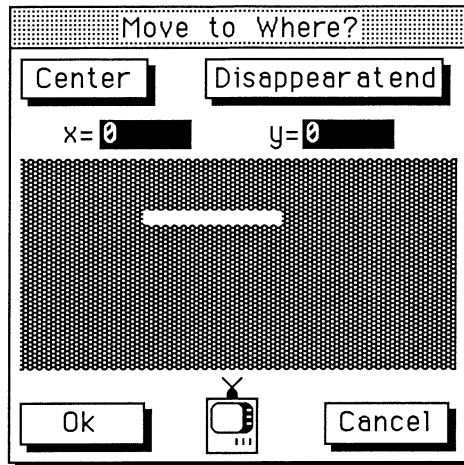


Figure 11: Move To Requester

You can now position the shuttle just as you did with the Appear Requester above, by dragging either the rectangle within the requester window, or the object itself within the video screen. Note, however, that the Move To Requester gives you an additional option: you can specify whether to have the object disappear at the end of its journey. Because we want the shuttle to disappear once it goes off the top of the screen, click **Disappear At End**.

Now drag the rectangle representing the shuttle to the top of the requester window, directly above its position on the launch pad. We are using the requester this time because we want the shuttle to move completely off the screen before disappearing. When you are satisfied, click **OK** to complete the transaction and return to the Scene window. Finally, adjust the Off arrow so that it shows 3:36 seconds in the duration box, and then adjust the On arrow to 4:51 seconds.

To view your handiwork, select **Play Scene** from the Project menu and watch the space shuttle blast off from the launch pad and move skyward. If you want to fine-tune the shuttle's journey up-screen, just double-click the Move To effect in the Scene Script to bring back the requester, where you can reposition the shuttle's final destination.

ADDING SOUND

Adding a sound effect requires adding a new track and a new effect. When you are back at the Scene Script, drag down a new track and place it under the "Shuttle" track. You will be asked to specify the kind of track you wish to add (see **Figure 12**). Clicking **Sound** will produce a second requester (a "Sound Requester"), giving you a choice of sounds you can move from the disk into memory (see **Figure 13**). Click the sound **Zoom**. Because **DeluxeVideo** uses digitized sounds created from tape recordings, it may take a little time to load the sound. When the disk stops whirring, the name "Zoom" will appear in the "In Video" window, to indicate that it is now available for inclusion into a sound track. Click the loudspeaker icon at the bottom of the requester to hear it. Finally, click **Select** to complete the creation of the new track and get you back to the Scene window.

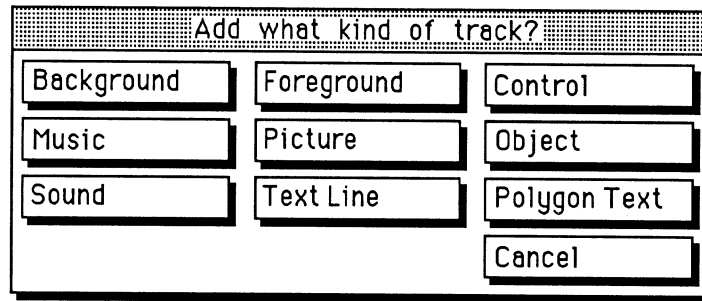


Figure 12: Track Requester

Now we need to add a new effect box to let **DeluxeVideo** know when to play the sound. Drag an effect box onto the new track (which should by now be labeled "Zoom").

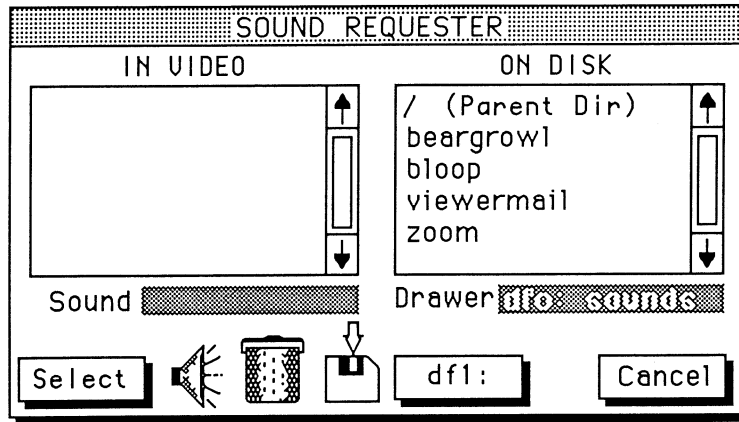


Figure 13: Sound Requester

This will result in a new requester, this time asking you to specify the kind of effect you want to create with the sound. You can choose between Fetch and Play; for now click **Play** because that's what we want it to do. A further requester (the Play Effect Requester, see Figure 14) lets you specify the rate, volume and direction of the sound. Go ahead and experiment with these settings, clicking the loudspeaker icon whenever you want feedback. When you are ready to go on, set the rate slide control about a quarter of the way from the left end of the range, because this gives us the most realistic sounding blastoff (feel free to set it anywhere you want, as long as it sounds good to you). As soon as you are satisfied, click **OK** to return to the Scene Script.

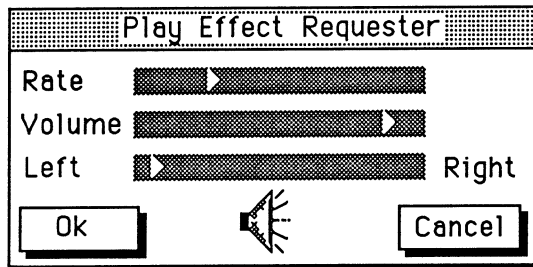


Figure 14: Play Effect Requester

Our next task is to position the sound effect so that it plays at the most appropriate time. Adjust the On arrow so that it shows 4:51 seconds, and adjust the Off arrow so that the duration of the sound effect (as shown by the box above the Off arrow) is 4:36 seconds. When you are ready, select **Play Scene** to see (and hear) your handiwork. Did you notice a fluctuation in the sound as you played your video? This is because the "Zoom" was played several times over the course of the effect, and the sound's middle range is louder than its beginning or end. To overcome this, you can Copy the entire sound track (first select it by clicking on the track box and then select **Copy** from the Edit menu) and paste it beneath the original sound track. When you select **Paste** from the Edit menu, a ghostly outline of the Zoom track attaches itself to the pointer. Just move the pointer below the original Zoom track and click the left mouse button to Paste the copy there. Now move the entire effects box (by dragging it with its Drag Bar) to the right about one second. This should result in reducing the perceived "beat" in the original sound effect.

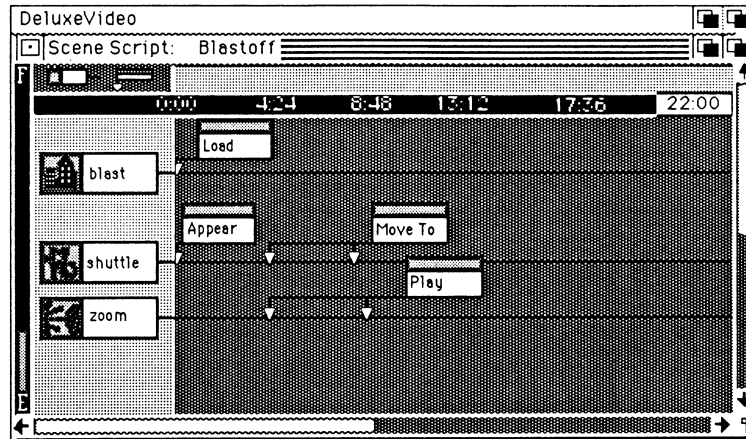


Figure 15: Blastoff Scene Script

FINISHING TOUCHES

To wind up this session, let's give our scene a name and save it to disk. First, close the Scene Script window by clicking the close box at the top left. Now choose **Rename** from the Edit menu. To change the name, click the name gadget in the Scene Name Requester and move the cursor to the right beyond the word "Scene" and Backspace over it. Type a new name for your scene, such as "Blastoff," and then click **OK**. Your scene now has a new name. If you have followed everything so far, your Scene Script should look like **Figure 15**. To save your video, select **Save As...** from the Project menu, click the File gadget in the Save Requester, type a name for your file, such as "Shuttle," and click **Save**.

2 ADDING TITLES AND CREDITS

In this exercise we will add titles and credits to our basic video to give it a professional touch. Here's how:

TITLE

First, if it's not already open, open your shuttle video file by selecting **Open** from the Project menu and clicking "Shuttle" in the file requester. Pull down a new effects box and place it on the video track after the effect labeled "Blastoff." Note that the new effect automatically becomes a Scene, the only kind of effect that you can have on a video track. Now open the scene effect by double-clicking it or by clicking it once and selecting **Change** from the Edit menu. This should open the script window for that scene. Now pull down an empty track and select **Polygon Text** from the resulting requester. This should produce another requester (see Figure 16), ready for you to enter the text to be displayed in your video. First, click the Text gadget and type in the word "Shuttle," the title of your video. Click OK to return to the Scene Script.

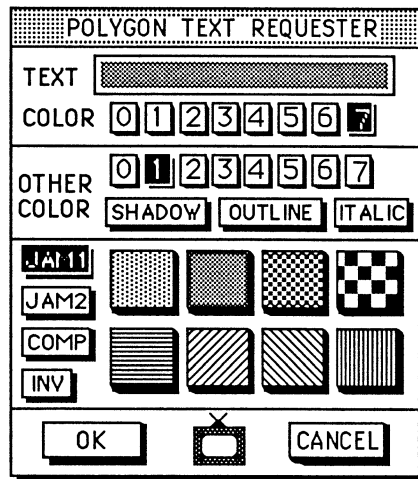


Figure 16: Polygon Text Requester

Back at the Scene window, drag a new effect box onto the Polygon track and when the requester appears, choose **Appear**. This will result in a further requester (see Figure 17), asking you to specify where you want the text to appear. The rectangle inside the window represents the text you will be positioning, at the default position — if you were to click **OK** at this point, that's where the text would appear when you played your video.

Now let's position the title so that it "appears" off-screen at the top. Normally, we can do this either by moving the rectangle in the requester, or by moving the title itself on the video screen. As we saw in the previous tutorial, both methods have the same effect, and each has its advantages. Thus, you would move the rectangle around the requester if you wanted the object to "appear" off-screen, as we do here. On the other hand, if you want the object to appear on the screen, and you want to position it accurately at a certain point (such as we did when we positioned the shuttle on the launch pad), then you may want to use the video screen. In either case, the technique is the same: point the arrow at the object (or rectangle, as the case may be) and, holding the left mouse button down, drag it to the desired location.

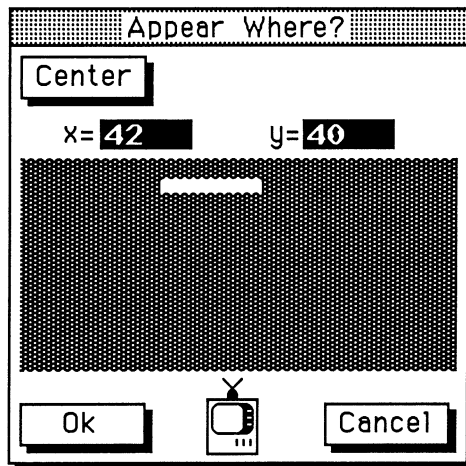


Figure 17: Appear Requester

In this case, drag the rectangle to the very top of the requester window. Now click **Center** to let **DeluxeVideo** center it automatically, and click **OK** to close the deal. This gets us back to the Scene window, where we can now move the On arrow of the effect so that it shows 0:03 in the time box.

So far we have created a title ("Shuttle") and instructed **DeluxeVideo** to make it "appear" off-screen at the top. Now we want to make the title move into view and come to rest at the middle of the screen. To do this we need to pull down a new effect box onto the Polygon track, this time to tell **DeluxeVideo** where to move the title. When the new requester appears, select **Move To**. This should present you with a new requester (the **Move To Requester**, see Figure 11). Our next task is to make the title move to a new location. Click the TV icon to bring up the video screen, and drag the title to a point about halfway down the screen. (Or you can do it in the requester window if you prefer — it makes no difference in this case.) Now click **Center** in the requester and then **OK** to return to the script window.

Our last job is to drag the On arrow to show 0:03 seconds and the Off arrow to show 11:00 seconds, after which we can select **Play Scene** to view our handiwork. What you should see is the title "Shuttle" coming down from the top and ending up at the middle of the screen. And yes, it's all your own work, so let's make some credits to let everyone know.

CREDITS

When we created the title "Shuttle" we used Polygon text, because it gives us greater control over the movement of the title on the screen. For example, we may want to jazz things up a little by using a **Rotate To** effect to make the title rotate or flip, or use a **Size** effect to make it grow or shrink. We will in fact be doing this later (see "Change Rotations" following in this chapter), but for now it is important to realize that **DeluxeVideo** gives you two ways to present text on the screen — Polygon Text, as we saw above, and Text Line, as we shall see now. Unlike Polygon Text, Text Line does not allow rotating, shrinking, or growing, but it does allow the use of different fonts and styles. In other words, the choice comes down to

whether you want relatively plain text doing fancy things on the screen, or fancy text doing plain things on the screen. In this case, we'll use the Text Line, because all we want the text to do is move up from the bottom of the screen.

First, go to the Scene window, if you're not already there. Pull down a new track, and choose "Text Line" from the requester. This will produce a new requester where we will enter the information that is to appear on the screen (see Figure 18). Click the Text gadget and type "By ..." and your name, and then click OK to go back to the Scene window.

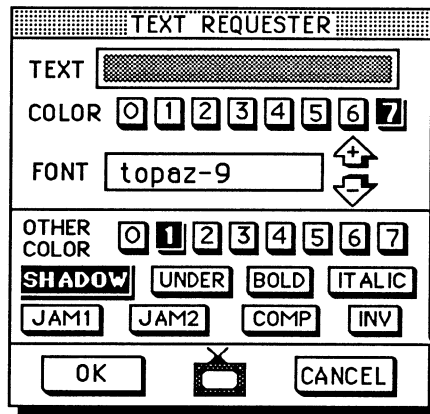


Figure 18: Text Requester

Now we need to tell DeluxeVideo what to do with this text, so drag down a new effect and place it on the Text Line track. Choose **Appear** from the resulting requester, because that's the first thing we want the text to do. The next requester is called "Appear Where?" (see Figure 10) and asks us to specify the place we want the text to appear. In this case, the default position (at the bottom of the screen) is the one we want, so all we need to do is click OK. Now, back at the Scene window, position the effect's On arrow to 0:03 seconds.

We still have to tell DeluxeVideo where to move the credits, so

drag down a new effect and place it on the Text Line track. When you are asked to specify the type of effect, select **Move To**. This will bring up the Move To Requester (see Figure 11). Now click the TV icon to bring up the video screen and drag the rectangle to a point below the title "Shuttle." Go back to the requester by clicking the front-to-back gadget and then click **OK** to get back to the Scene window. Finally, set the duration of the effect to 2:00 seconds by moving the Off arrow, and then set the start time to 0:30 seconds by moving the On arrow. If everything went right, your Scene Script should look like the one in Figure 19. And now for the moment of truth: **Play Scene**. Note that the credits moved up and came to rest before the title stopped moving. You may want to modify this so that the credits start moving up when (or shortly before) the title comes to rest. All you have to do is pick up the credits' Move To effect and drag it so that its On arrow coincides with the Off arrow of the title's Move To effect. Try different timing combinations until you find the one that looks best to you.

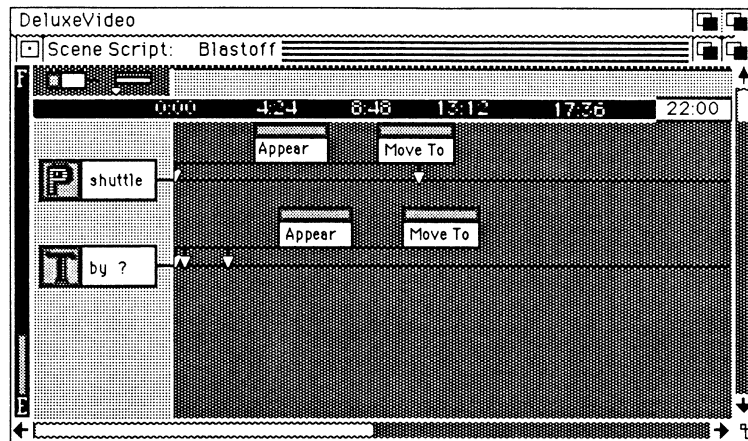


Figure 19: Credits Scene Script

Before we move on to the next section, where we will be modifying and jazzing up our basic video, let's give this scene a new name. First, go back to the Video Script level by clicking the Scene window's close box at the top left corner. Now select **Rename** from the Edit menu. Click the text gadget in the Rename requester and type a name for this scene. "Credits" would seem most appropriate, but you can use any name you like. Click **OK**, and the deed is done. Before you quit this session, be sure to save your work. To do this, select **Save As...** from the Project menu and then give your file a name.

As a final step, let's rearrange the order of the scenes to tidy up our video script a little. For example, let's put the credit scene before the Blastoff scene, since that's the order of occurrence. Pick up the Blastoff scene (by its Drag Bar, so as to move the On and Off arrows as well) and drag it to the right of the Credits scene. Then drag the Credits Scene to the very start of the Video Track. Now drag the Blastoff scene so it starts just after the credits. Rearranging your video script in this way makes it easier to see the order in which things occur.

3 DRESSING UP YOUR VIDEO

In this section we will be taking the basic video that we created earlier and making a few modifications to dress it up a little. Just as a word processor lets you go back and embellish the first draft of a piece of writing, **DeluxeVideo** lets you go back and modify the "first draft" of a video until you have just what you want.

ADDING A MUSICAL SOUNDTRACK

Our first modification will be to add a musical soundtrack to our "Shuttle" video. If you are starting a new session at this point, go ahead and load your file by selecting **Open** from the Project menu and clicking "Shuttle" in the file requester.

When you arrive at the Video window, drag down a new track and select **Music**. This will result in a new requester (see **Figure 20**), presenting you with a choice of musical selections; choose "Zarathustra." An additional requester will tell you which instruments your selection uses, so you can make sure that they are in your instruments drawer. Click **Load**, and then click **Resume** when prompted. If you want to preview your selection, click the loudspeaker icon at the bottom of the requester, and your selection will be played using the piano voice. Next, drag down a new effect and place it on the music track. Choose **Play** for the kind of effect, and then click **OK**. Finally, adjust the On arrow so that the effect will start at 0:00 seconds, to coincide with the appearance of the credits. Finally select **Play Video** from the Project menu.

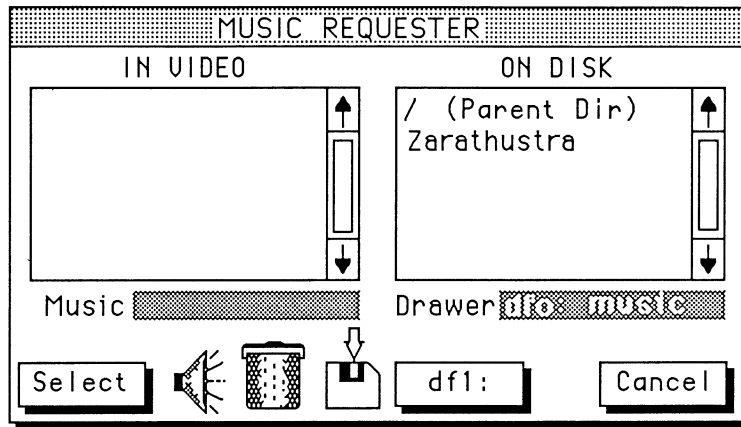


Figure 20: Music Requester

CHANGING COLORS

When we created the title to our video in the second tutorial, you may have noticed that the letters were a nondescript shade of yellow. Now let's see how easy it is to change this color.

First, go to the appropriate Scene Script window by double-clicking the Credits scene effect on the main video track. You must do so because the Polygon track is in the Credits scene of the video. Double-click the Polygon track to produce the Polygon Text Requester, the control panel for polygon text (see Figure 16). Directly below the Text gadget you should be able to see a row of numbers labeled "Color" and below that a second row of numbers labeled "Other Color."

These two sets of numbers represent the colors that are used in the title. The first of these represents the fill color, the color of the letters themselves, while the second represents the outline of each letter. Note that "7" is highlighted in the first row and "1" is highlighted in the second. This means that each letter is filled with Color Number 7 (which happens to be yellow in this particular palette) and outlined with Color Number 1 (which happens to be

black). To change either of these two colors, simply click one of the other boxes. If you want to get immediate feedback, click the TV icon and then drag the video screen up until you can see both the requester and the text. Now as you click each of the color numbers you can see what effect it has. You can also experiment with some of the other effects in this requester, just to see what each one does. When you are satisfied with your new color combination, click **OK** to return to the Scene window.

MODIFY MOVEMENT

Now let's modify the movement of the title so that it appears at the left-hand side of the screen and moves to the middle. At the Polygon track, double-click the effect box labeled "Appear," since that is the one that controls the title's appearance onto the screen. This brings up the Appear Requester (see Figure 21).

Now let's move the title so that it begins its journey offscreen on the left rather than at the top. Just drag it to the left-hand side of the screen and release the button. Click **OK** in the requester window and select **Play Video**. If everything went as planned, you should see the title move from the left-hand side of the screen to its ultimate position in the center.

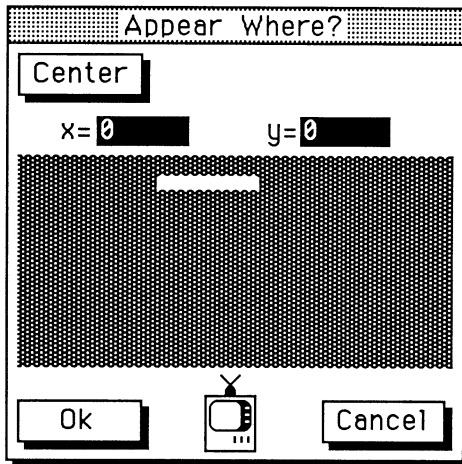


Figure 21: Appear Requester

CHANGE ROTATIONS

In this exercise, we will make our title rotate as it moves from its origin to its final position. First, drag down a new effect box and place it on the Polygon track. When **DeluxeVideo** asks you to specify the kind of effect, select **Rotate To**. This will produce the Rotate Requester (see Figure 22), where you can specify the kind and the amount of rotation.

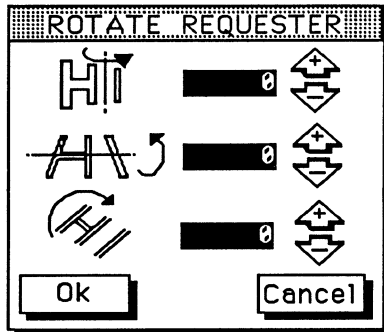


Figure 22: Rotate Requester

As you can see, you can rotate the title through 720 degrees (+360 to -360) in any of three axes. The best way to familiarize yourself with this effect is to experiment with it, trying out different rotation combinations. As you experiment, bear in mind that the rotation in degrees is relative to the title's original orientation, so that if you rotate it 90 degrees you will not be able to see it, because you will be looking at its edge. Similarly, if you rotate it 180 degrees it will end up as a mirror image of the original.

For the purpose of this exercise, change the degree of rotation to +360 for the vertical axis, and leave the others at zero. This will result in the title rotating about its vertical axis as it moves from its starting position to its final resting place. Position the Rotate effect so it starts at 3 seconds and lasts for 3 seconds.

STROBE A MOVEMENT

In this exercise we will be exploring the world of strobes and trails, in which objects leave images of themselves behind as they travel from one side of the screen to the other. By using the Strobe effect, you will be able to create effects similar to those stroboscopic photographs showing a golfer swinging a club or a tennis player swinging a racket. Here's how:

First, while at the Scene Script, drag down a new track. When you are asked for the kind of track, specify Foreground, because that's where strobe effects take place. Now drag down a new effect box and lay it down on the Foreground track. This time, click the gadget marked "Strobe," and then move the effect box (which should now be labeled "Strobe") so that the onset marker lines up with the On arrow of the effect box labeled "Appear," at 0:03 on the time bar. Now move the Off arrow so that it coincides with that of the Move To effect's Off arrow. Now when you **Play Video**, you should see the title leave a trail of images as it makes its way to its final destination.

CHANGE BACKGROUND PATTERN

In this exercise we will be modifying the background pattern, choosing from a number of preset patterns. As you may have noticed when we played our Shuttle video, the background behind the launch pad was a plain, patternless gray. Of course, it is sometimes preferable to use a plain background, so as not to detract from the foreground objects, but there are times when you may want to add more pizzazz to your video. This artistic judgment we'll leave up to you — for now, let's see how to make the changes.

First, while you are in the Credits Scene window, drag down a new track, and make it a Background track. Then drag down a new effect and choose Pattern; this will bring up a new requester, the Pattern Effect Requester (see Chapter 7, Section 5, "Pattern" for more information). Click the TV icon and let's try various combinations of pattern effects to see how this requester works. First, look at the

four gadgets on the left-hand side of the requester, below the two rows of color numbers, labeled Jam 1, Jam 2, Comp, and Inv. These four boxes control the way in which the primary and secondary colors interact. As its name implies, Jam 1 uses just the primary color in combination with Color 0 (the background color), while Jam 2 uses both the primary and secondary colors to create the background pattern. To the right of these four is a set of eight pattern boxes. Clicking each one of these boxes produces a different pattern on the video screen. You might want to spend a few minutes clicking various combinations of these effects to see exactly what each one does. You can click OK at any time and then select **Play Scene** from the Project menu to see your changes. And if you don't like what you see, you can always reopen the requester and try again. While you're there, you might want to experiment with the second pattern effects box on the background track, to see what it does.

As a final exercise, you might try going back and changing the original jump cut (when we Loaded the Blast picture back in our first tutorial) to a Wipe. Go back to the Blast track for that scene and open the Load Requester by double-clicking the Load effect box. When the requester appears, click **Get Ready**. Back at the Scene Script, drag down a new effect and place it on the Blast track. Make it a Wipe effect. Now experiment with different wipes with the Wipe Effect Requester. (See Chapter 7, Section 5 on "Wipe" for more information about this requester.)

After you're done experimenting, you may want to save your changes. You can do this in two ways. Click the Close box in the upper left hand corner and a Requester box comes up saying "Changes have been made to this vide, but not saved. Do you want to save them now?" You can click Save, Don't Save, or Cancel. The second way is to pull down the Project menu and select Save or Save As.... Selecting Save overwrites the old file. Selecting Save As... brings up a Save Requester: click on the File gadget, give it a new name, click Save, and then click Quit to exit the program.

By now you've probably seen enough shuttles and launch pads to last you a while, so let's move on to something completely different — animating objects with the Framer, **DeluxeVideo's** animation sequencer. This is the subject of the next tutorial, coming right up...

4 AN INTRODUCTION TO THE FRAMER

Although **DeluxeVideo** is not primarily an animation editor, we have provided you with an animation utility, the **Framer**, that lets you string sequential images together to create the illusion of motion. You run **Framer** from the **Workbench**, not from inside **DeluxeVideo**. But you can then use these images in your videos, just as you would any other picture or object. **Framer** animation sequences are stored in the **Objects** drawer along with both **Multi-cel** (multi-frame) and single-frame objects. Although these objects look the same, **DeluxeVideo** can tell the difference. The following tutorial describes how to use the **Framer** animation tool that is included on the **DeluxeVideo** Parts and Utilities disk. You can use the **Framer** to animate pictures created with **DeluxePaint**.

STARTING UP

Insert the **Parts** disk in the drive and double-click the **Framer** tool-icon. This will produce a low-res screen titled "Framer Picture Screen" (see **Figure 23**). We will be using this screen to load the pictures that make up your image sequence. You will also notice a frame made up of six boxes labeled "a" through "f." These represent the animation's cel sequence, with *a* representing the first cel, *b* the second cel, and so on.

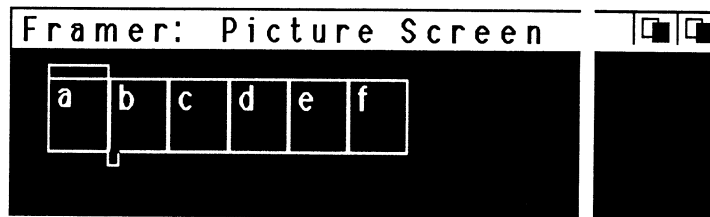


Figure 23: Framer Picture Screen

MOVING THE FRAME: Above the *a*-box is the *drag box*. You can use this to move the frame sequence around the picture screen. To do this, move the mouse pointer into the *drag box*, press the left mouse button, and, while holding the button down, drag the box around the

screen. Release the mouse button to stop dragging the frame sequence. As you can see, the drag box works just like the title bar of a window.

SIZING THE FRAME: Below and to the right of the a-box is the *size box*. Use this to change the size of all the boxes in the frame sequence. Move the mouse pointer into the size box, press the left mouse button, and move the mouse while holding the button down. When you are satisfied with the size of the frame sequence, release the left mouse button. The size box works just like the sizing gadget of a window, but it sizes all the boxes in the frame sequence equally.

CHANGING THE NUMBER OF FRAME BOXES: The default frame sequence is for a six-frame animation sequence. To change the number of frame boxes, select **Change Frame** from the Project menu. After the Frame Sequence Requester appears (see Figure 24), click the *plus sign* gadget by the number "6" until the number of frames is increased to 10, then click OK. You should now see ten frames ("a" through "j"), with the tenth box on the second row. If the frames go off the screen, adjust the drag box and the size box until you can see the entire frame sequence.

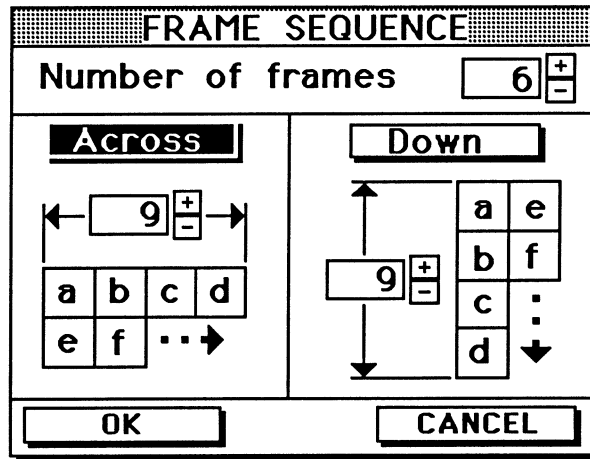


Figure 24: Frame Sequence Requester

CHANGING THE FRAME ORIENTATION: The default frame sequence is suitable for an animation sequence oriented from left to right. To change the orientation of the frame boxes, select **Change Frame** from the **Project** menu. After the **Frame Sequence Requester** appears, click the **Down** gadget, and then click **OK**. You should now see the frame sequence going down the screen instead of across. If the frames go off the screen, adjust the drag box and the size box as before.

CHANGING THE ROWS OR COLUMNS: If you have the frame sequence set to go across the screen, you can change the number of columns by adjusting the number below the **Across** gadget in the **Frame Sequence Requester**. Likewise, if you have set the frame sequence to go down the screen, you can change the number of rows by adjusting the number below the **Down** gadget in the **Frame Sequence Requester**.

By changing the number of frames, the size, the orientation, and the number of rows or columns, you can adjust the frame sequence to a wide variety of patterns.

MAKING A SAMPLE OBJECT

You will find a picture called "Firecracker" in the **Pictures** drawer of the **Parts and Utilities** disk. This is an example of the kind of picture you can draw with a paint program as a first step to creating your own animated objects for **DeluxeVideo**.

LOADING A PICTURE: Select **Load** from the **Picture** menu. Find the name "Firecracker" in the list of files and click on it. (This should result in the name appearing after the word file near the bottom of the requester). Then click **Load**. If your picture contains more than eight colors, you will be presented with a requester to that effect, and several choices. Because pictures and objects in **DeluxeVideo** can use no more than eight colors, you may need to reduce the number of colors. At this point, choose **Best** so that the best eight colors will be used for the picture. (As you become more proficient using **DeluxePaint** pictures in your videos, you might consider saving eight-color versions of your art along with the originals. See Chapter 4, Section 3 for more information on doing this.)

When the picture has loaded it will appear under the frame sequence. Select **Change Frame** from the Project menu to change to six frames going across the screen in six columns. Now use the drag box to position the upper-left corner of the a-box exactly over the upper-left corner of the first box in the firecracker sequence. Now use the size box to position the lower-right corner of the a-box over the lower-right corner of the first box. If it exactly matches the first box, it will also match all other boxes in the sequence.

MAKING THE OBJECT: Once the frame is set to match the boxes in the picture, select **Make Object From Frame** from the Project menu. This option "cuts" a copy of the object from the "picture screen," switches to the "object screen," and draws the first frame of the object sequence inside a bounding rectangle.

TESTING THE ANIMATION: With the firecracker visible in the object screen, select **Animate** from the Project menu and watch the fuse burn and the firecracker explode. To stop the animation, click either mouse button.

SAVING AN OBJECT TO DISK

Once you have made an object, use the following steps to save it to disk:

ADJUST ITS LOCATION: With the object visible in the Object Screen, hold the left button down within the bounding rectangle and drag the object to its new location. This location will be saved with the object and used by **DeluxeVideo** as the object's default "Appear" location.

SAVE: Select **Save** from the Object menu. When the requester appears, you should be able to see the name "Firecracker" in the File gadget. Each object you make is automatically given a name by concatenating the picture's name with the number of objects you have made in a Framer session. If this is the first object you have made, its name should be "Firecracker-1" If you want to use a different name, click the File gadget and type one in. Then click **Save** to save the object to disk.

To achieve the best results with the Framer, you need to use a special technique when using **DeluxePaint**. In particular, when you are creating a sequence of images, you need to place each image in *exactly* the same location in its rectangle, so that when you animate the sequence using the Framer, the animation will not "wiggle." You can do this by simulating the frame in the Framer by using a one-pixel brush to draw a rectangular border around the first image, then copying and pasting the whole image (rectangle and all) *right next to* the original. In other words, paste the second image so that its left-hand border just touches (but without overlapping) the first image's right-hand border, so that the line between the two images is exactly two pixels wide. You can then make changes to the second image, copy and paste that (rectangle and all) to the next position, and so on. You'll find that by using this technique, you can create smooth animations every time.

The Framer is also covered in Chapter Four, Section 3. Refer to that section for information on using the Framer with **DeluxePaint**.

5 USING SCENE GENERATORS

DeluxeVideo contains special routines known as "Scene Generators" that can create completed video presentations with a minimum of input from the user. These routines are like templates — they transform raw data into the same animation routines each time. These routines are exactly like the Scene Scripts you create by hand, but the creation process is faster. Use the Scene Generators as a shortcut, adding personal touches and effects after the scene has been generated. If you want to create business presentation graphics or titles and credits for your home videos, work through the following simple exercises. You'll be surprised at the ease with which you can create impressive effects.

A PIECE OF CAKE

DeluxeVideo's Pie Chart scene generator converts your raw data into an animated pie chart, without any need for further input from you. Here's how:

First, start a new video file by selecting **New** from the Project menu. Next, select **Load Scene Generators** from the Scenes menu to load the required set of routines from the disk into memory. To do this, press the right mouse button to make the menu bar appear, move the pointer up to the menu bar, drag it down until it highlights the desired option, and release the button. After the disk activity stops, pull down the Scenes menu again, and you will notice that it now has a different set of options. Select **Charts** from the primary menu and **Pie Chart** from the secondary menu (move the pointer to the right until **Pie Chart** is highlighted, and release the button). A requester window should appear, awaiting your input. If you have a set of actual data that you would like to put into pie chart form, then go ahead and use it; otherwise, use any figures you like.

To enter data, click the gadget labeled **Title** to put a cursor there, and type in a name for your pie chart. Next, click the first gadget under **Pie Piece Names** and type in a name for the first pie segment. Now click the first gadget under **Values** and type in a numerical value. Note that your numerical data need not be in any kind of

format, such as percentages — **DeluxeVideo** takes care of any data conversions that may be required. Repeat this procedure with the remaining segments. If you are using actual data and you have more than six segments, save the last gadget for an all-encompassing "Other." If you need to change any of the values, click the corresponding gadget, delete the existing value (by deleting or backspacing over it), and then type in the new value.

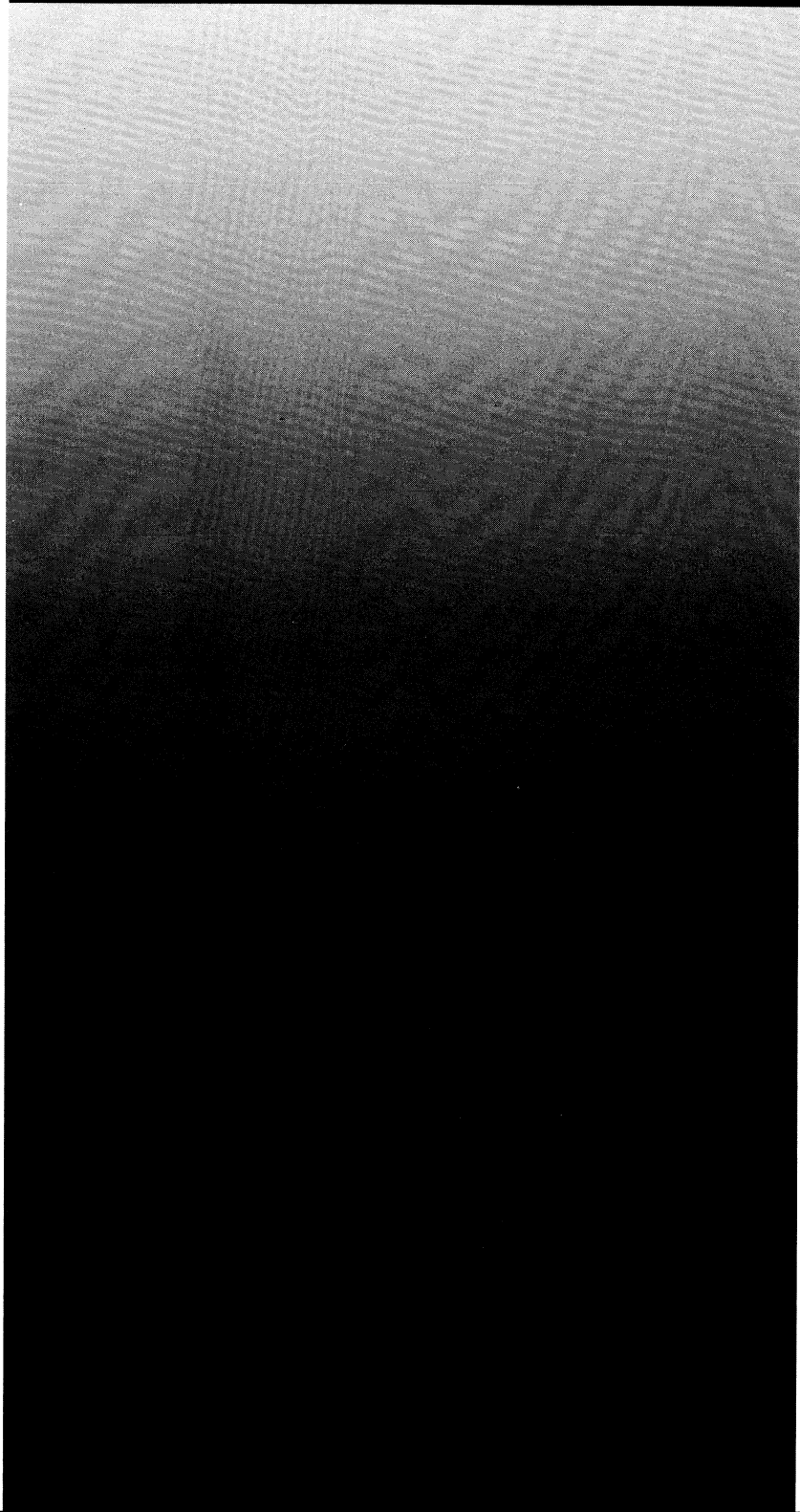
When you have completed filling in the information, click **OK**. This will bring you back to the Script window, where you will find that the scene box now bears the title of your pie chart. And now for the moment of truth: from the Project menu, select **Play Scene**. Wow! When the scene stops, press the close box on the remote control to return to the script. If you want to save this video, select **Save As...** from the Project menu. Click the File gadget in the resulting File Requester, type in a name for your video, and click **Save**.

YOUR NAME IN LIGHTS

For this exercise we will be creating a title and one or two subtitles for a movie or other video presentation. When you are ready to leave your pie chart, select **New** from the Project menu to clear your working area. When **DeluxeVideo** asks "Save Video?" click "Don't Save" with the left button. You should get a new Script window, as we did when we started the pie chart video above. This time, select **Text/Title** from the Scenes menu, and select "Simple" at the next requester. The resulting Title Scene Requester can accommodate a main title and a byline. For the main title, click the Title gadget and enter a short title, such as "A Video" (although we're sure you can do better than that). Next, click the third gadget and give yourself some credit by entering your name. Click **OK** and then select **Play Scene** from the Project menu.

The foregoing is just a sample of the creative ways in which you can use **DeluxeVideo**. Feel free to experiment further with **DeluxeVideo's** many features as you follow the road to video expertise. For more advanced techniques, see Chapter 4.

NOTES



NOTES

If you have read through the preceding chapters of this Manual, you are at the point where you can start polishing your technique. This and the next two chapters can show you how to make better videos in less time. Chapter 4 covers advanced techniques for creating interesting special effects. Chapter 5 gives you some ideas for specific applications. And if you're interested in hardware that can expand the capabilities of **DeluxeVideo**, see Chapter 6 on Hardware. These three chapters assume that you have already used **DeluxeVideo** and are familiar with how it works. Nevertheless, if you see a term you don't understand, see the Reference and Glossary in Chapter 7 for clarification.

Chapter 4 begins with a technical overview of **DeluxeVideo**, essential information for the more sophisticated user. Using the information given there, Section 2, "Design Strategies," shows you how to use a worksheet to plan your video. The remaining sections discuss some of **DeluxeVideo**'s advanced features, including the use of **DeluxePaint**, music, and telecommunications.

1 DELUXE VIDEO: A TECHNICAL OVERVIEW

It may sometimes happen that **DeluxeVideo** runs out of disk space even though there seems to be plenty of room on the disk, or it does not play back your script just the way you thought it would. At other times, the disk may seem to cause a delay in the middle of a video, or the colors seem to change unexpectedly, or it seems to play back less smoothly than it did before you added that last object. This section is designed to help you better understand how **DeluxeVideo** works so that if you experience any of these unexpected effects, you will know what to do to remedy them.

The first thing **DeluxeVideo** does when you load a video is copy it onto the same disk that you loaded it from. This means that before you can make changes to a video, you need to have enough room on the disk for a working copy of the original. A video file contains all the parts that make up the video (except the fonts used in the text), so you can copy videos from one disk to another without having to copy the parts as well. Note, however, that if a disk contains nothing but videos, you will find that the parts drawers are empty, because **DeluxeVideo** does not look inside the video to tell you what parts it contains. If you want to use a part from a video, use

Unpack (on the Parts and Utilities disk) to unbundle it from the video. Alternatively, you can load the video which contains the needed part and then double-click on the appropriate track (or use the Parts menu), and click the disk icon to write that part into the appropriate parts drawer.

When you load a video, only the Video and Scene Scripts are loaded into memory (unless you are using a RAM disk, see Chapter 1, Section 4). **DeluxeVideo** reserves a fixed amount of memory for the scripts, and you can tell how much has been used by looking at the capacity gauge for each script. **DeluxeVideo** does not actually load any of the parts until you request Play Scene or Play Video. When the script begins playing, every Load, Fetch, or Play effect it encounters, and every Show command you issue, causes **DeluxeVideo** to go to the disk and load that part. A Fetch at the beginning of the script forces **DeluxeVideo** to load the part earlier than it was needed, thereby avoiding a disk read in the middle of a video (see Fetch in Chapter 7, Section 5).

Pictures are loaded into the Hidden Background, and all objects and sounds are loaded into the Part Pool. You can only load one Picture into the Hidden Background although you can load many parts into the Part Pool. The Part Pool is also a fixed size (although it can be increased if you have more than 512K of memory) and the amount used depends on how many parts are currently being displayed (or played). You can see how much of your Part Pool is being used by using the Memory Map from the Options menu. The Memory Map highlights in bright yellow the times when you are attempting to combine more parts — sounds, objects, text — than the program can accommodate. If you do not remedy the situation by either removing a part, Stamping one to the Background or putting it later in the script, **DeluxeVideo** will simply ignore that track effect.

A **Display** in **DeluxeVideo** is made up of a **Foreground** and a **Background**, hence the term "Dual Playfield" (see Figure 25).

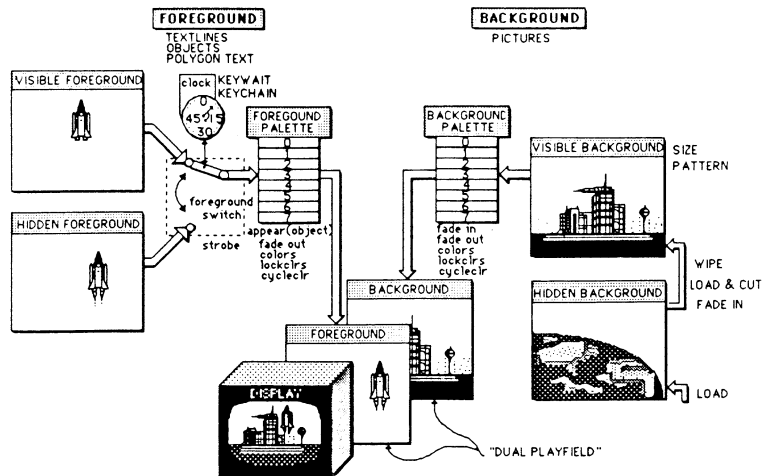


Figure 25: Inside DeluxeVideo

The two kinds of entities that **DeluxeVideo** recognizes — static and dynamic — reside in one or other of these two areas. Generally speaking, static entities (such as **pictures**) reside in the background while dynamic entities (such as **objects** and **text**) reside in the foreground. The foreground and background areas each have their own color palette, with each palette having up to eight different colors. At any one time, all the foreground entities share the same color palette, as do all the background entities. When you **Appear** an object that came from a different palette than the one currently in use, the current palette changes accordingly.

This means that two objects drawn with different palettes will change each other's colors when the second object appears. The `LockClrs` effect (see Chapter 7, Section 5) prevents the palette from changing when a new object appears, but its colors may end up not quite right. The best solution is to use parts that were created using the same palette. Conversely, when you are creating parts using `DeluxePaint`, use the same eight colors for all the parts.

The Foreground and the Background have separate color palettes that operate independently of each other. You can set both Foreground and Background to the same palette by choosing `Get FG` or `Get BG`, as appropriate, from the Colors Requester (see Chapter 7, Section 5, "Colors"). Color 0 in the Foreground palette is transparent and lets the Background show through. Note that even though you cannot Fade an object to transparent, you can fade it to one color, which can be the same color as the background behind the object. This will look like a fade. However, if the background has several colors at that place, it will not look like a fade. See the discussion on the Colors effect in Chapter 7, Section 5 for one technique for fading in a Foreground object.

The foreground is composed of two memory areas: the **Visible Foreground** and the **Hidden Foreground**. These work together to create the effect of motion. Thus, while `DeluxeVideo` is displaying the visible foreground, it is busy building the next frame of the video in the hidden foreground. When the next frame is ready, the hidden and visible foregrounds switch places instantly, and the process starts over again. This is known as "page flipping " or "double-buffering."

Likewise, the background is also composed of two distinct memory areas: the **Visible Background** and the **Hidden Background**. Unlike the two foregrounds, however, the two backgrounds do not "ping-pong" in the double-buffering process. Instead, the hidden background is used as a temporary buffer for an image that will be brought into view by some effect such as a wipe or a jump cut. A hidden background image can be generated synthetically by a pattern or colors effect, or it can be generated by loading a picture from disk.

Whenever a video changes what you see or hear, it uses up time. It takes time to load from the disk, and the computer needs time to

determine the appropriate action it needs to take. The amount of time taken depends on the effect being produced. For example, Rotating Polygon Text and sizing an object use up the most time when put into the Hidden foreground. On the other hand, changing colors uses relatively little time because this changes only the foreground palette.

The amount of time required to prepare the next "page" can be greater than the 1/30th of a second (or 0:02 on the video clock) used by a television set. Thus if you do a Move To and Size on an object as it moves across the screen, the object would not appear as smooth as it would on television because the frame rate is less than 30 frames per second. If you add another object which is also moving and sizing, you have just doubled the amount of time it takes to fill the Hidden Foreground with the new "page," thus cutting the effective frame rate in half. And if you then add music or sound as well, the frame rate will be reduced even more.

The simplest way to determine the time needed to prepare the next frame is by putting the Remote Control in step mode and using the right arrow to advance the video. The video will advance one frame and the clock will increment by the amount of time it took to do the calculations. This means that you can improve the smoothness of a video by managing the things **DeluxeVideo** needs to do at the one time. One thing to remember is that even though you may not be moving or sizing an object, **DeluxeVideo** must put it into the Hidden Foreground each time. However, if you stamp it into the Background and Disappear the Object, not only have you freed up the memory in the Part Pool but you have also given **DeluxeVideo** one less thing to put onto the new page, thereby making it run faster.

Music and sounds are the highest priority parts, and so they always run at a constant rate. Otherwise, if they slowed down whenever more objects were added, it would sound like a car cassette player just as it was about to chew up a tape. Therefore you should add music into your video sooner rather than later, because adding it later will change the way things look or the rate at which things move.

2 DESIGN STRATEGIES

The timing of sound effects, movement of objects, palette changes, text placement — all combine to make an effective video. To get that seamless flowing of events takes planning and practice, experience and experimentation. Before you start laying Tracks down, before you start building your video, it's a good idea to plan it out on paper (see "Using a Worksheet" following in this section). A video is no different from any other large, complex project. Careful advanced planning will pay off with a more professional final result, and in the long run the total amount of time invested is less than you expect.

COLOR PALETTES

Because everything in **DeluxeVideo** revolves around two areas, the Foreground Palette and the Background Palette, preplanning in the selection of these Palettes is essential for the effective use of colors. Remember, if you bring in a new Foreground object with a different Palette while other objects are still visible in the Foreground, the old Foreground objects will assume the new Palette, with results that can range from annoying to disastrous. Also, if you Stamp a Foreground object into the Background, the Background Palette will change to the Foreground Palette unless you've used the LockClrs effect. In that case the Background palette will stay the same, but the Foreground object will assume the Background Palette.

The Foreground and Background Palettes are independent, so you can use different colors in them as long as you don't use the Stamp effect. If you do use Stamp, make sure that the Foreground object and Background picture use the same Palette, or you will find colors changing unexpectedly. There are special cases where creative uses of intentional Palette changes may dictate otherwise, but these are exceptions to the rule.

MEMORY MANAGEMENT

Text, Music, AnimSeqn, and Sound all need space in memory. When you try to have more simultaneous events than you have space for, **DeluxeVideo** starts throwing low priority events out of memory.

You can see if this will happen to your video by using the Memory Map from the Options menu. Areas highlighted in solid yellow indicate problems. Strategies for resolving these situations include Stamping motionless Foreground objects to the Background, changing the sequence of events to use less memory at congested points in time, using the Disappear effect on objects that have been scrolled off screen but are still in memory, and breaking the video into several Scenes.

A rule of thumb you might find useful is to keep the number of Foreground objects to three or less, and to Stamp any objects that will not be moving. However, you can have more than two or three Text and Polygon Text objects, because they take up much less room. Generally, you can have about one screen full of foreground stuff, although you must count each cel of an animated object. And note that sounds use memory as well — about 1/3 of a screenful for each second of a sound effect.

PROCESSOR TIME

The order of events and the amount of time they take are critical to the design of a professional-looking video. Disk Fetches can disrupt events in progress; Rotating, Sizing, and Moving a line of Polygon Text simultaneously can slow other events to a crawl; and every time you add a new event it can change the timing of your entire video. The placement of the On arrow for an effect can be critical. Adjustments of just a few jiffies can smooth out a transition or chop the ending bars off a song.

Track priority can also have an effect on how a video plays. Remember, the higher a Track's position in the Script, the higher its priority. Shuffling the order of Tracks can be an effective tool for resolving some conflicts. You can also free up processor time by Stamping unmoving Foreground objects to the Background, and

Disappearing offscreen Foreground objects. **DeluxeVideo** redraws these objects each time it redraws the Visible and Hidden Foregrounds, so removing them reduces processor overhead.

OTHER CONSIDERATIONS

You can display videos in a number of different ways. To help you decide, you should consider both the final display medium and your audience. For example, if you are recording your video on videotape and have more than 512K of memory, choose a background palette that will eliminate the Overscan border. (The Overscan border is that area around the edge of the screen where no objects can appear; it exists because some monitors or TVs enlarge the usual image area of the signal, and without the border you would lose part of your picture off the edge of the screen. See Chapter 7, Section 6 for a more detailed discussion of Overscan and the options available to Amigas with more than 512K.) Select bright colors if you will be using your video as a point of purchase display, and avoid them if you will be showing it on a projection TV. Leave text lines on-screen long enough for any viewer to have a chance to read them, and use a font that is not ornate or scriptlike.

USING A WORKSHEET

As we've already seen, a lot of planning goes into creating a video. Keeping track of the various parts and pieces and the order and timing of events requires a system. We've created one for you to use (see **Figure 26**). It's a single page worksheet that helps you lay out the elements of a video before you begin to assemble it. We suggest you photocopy it, or construct one of your own. A worksheet will prove invaluable as you start making more complex videos.

Let's go through the Worksheet step by step.

Scene Name _____		Deluxe Video Worksheet				
Track Element	Memory	Name	Begin Effect	Dura. Effect	End Effect	P
Picture						
Background						
Foreground						
Object						
Polygon Text						
Text Line						
Sound Effect						
Control						

Figure 26: A Worksheet

MEMORY USAGE COLUMN: Use this column to make notations about the amount of memory used by a particular element (a track or a portion of a track). You can use VidCheck to determine how much memory your completed video is using, but when you're planning a video use VidCheck on existing videos to derive an estimate. Don't try to keep track of every item, just the major events, such as backgrounds, sounds and music, etc. The purpose of this column is to keep you aware of the amount of memory being used for a scene and to prevent you from losing scene elements due to a lack of available memory.

NAME COLUMN: This is simply the name you've given the particular element (i.e. Background Picture named 'ocean scene').

BEGIN EFFECT COLUMN: This column notes the effect used to start an element once it enters the video. For Pictures this could be a Wipe or Jump Cut or a Fade effect. For Text and objects this could be an Appear effect.

DURATION EFFECT COLUMN: This column notes the effect(s) used during the duration of an element's performance in the scene. Duration effects are Size, Cycle colors, Strobe effects, Move To's, Rotate, and Animseqn and Animcycle commands. Duration effects act on an element while it is in the scene until the element leaves the scene. Duration effects can also act on an element *before* it appears in the scene, such as pre-sizing an object off-screen.

END EFFECT COLUMN: This column notes the final effect used on an element. End effects include Fade Out, DisApp, and Stamp.

PALETTE COLUMN: This column keeps track of the color palette used for an element relative to other scene elements. Remember that bringing a new element created with a different palette into the Foreground or Background will force a change to the new element's palette. You have several options available here. If you intend to use only a single Foreground palette and a single Background palette, then an 'F' for Foreground and 'B' for Background should suffice. If you plan special effects caused by bringing several different palettes into a video, then number each palette and keep that number assigned to each element using that palette. Other systems can be used as well; the idea here is to avoid unexpected events.

Keep in mind that this is only one example of a Worksheet. Feel free to create your own, adding more columns or track elements as you see fit. For example, you may want to extend the element list by adding a separate field for music, or you might want to add a special Fetch column to draw your attention to when fetches occur. Design your Worksheet to fit your own working style. As you build your videos, becoming a more sophisticated video expert, you'll be glad you did.

3 USING THE FRAMER WITH DELUXEPAINT

The Framer is a much more powerful tool than might appear at first glance. It can be used for a lot more than creating cartoon-like animated sequences. Unique title effects, science fiction special effects, and overlays can all be created using the Framer. It's not a difficult tool to master, but it does require a regimented approach, especially if you plan to animate objects you've created in **DeluxePaint**. This section covers advanced Framer techniques, such as how to convert existing **DeluxePaint** pictures to the format required by **DeluxeVideo**, and how to create new pictures specifically for **DeluxeVideo**.

CONVERTING DELUXEPAINT PICTURES TO DELUXEVIDEO

CONVERTING PICTURES TO EIGHT COLORS: If you plan to use **DeluxePaint** images in your animations, you will want to make eight-color versions of your pictures, the format required by **DeluxeVideo**, and save them alongside the originals. Here's how:

With the Framer running in the internal drive, insert your **DeluxePaint** disk in the external drive. *Make sure your DeluxePaint Disk is write-protected!*

Select **Load** from the **Picture** menu, click **Drawer**, and type in "df1:lo-res." Find the name "Venus" in the file list and click on it, and then click **Load** (if you don't have Venus on your disk, any other picture will do). After Venus has loaded, you will be presented with the "Too Many Colors" requester. Choose **Best**.

If you wished to use this picture of Venus in a video, you would follow the same steps when loading it into **DeluxeVideo**. But you could also save the image you have on the screen as an eight-color picture, and the color fitting step would no longer be necessary. If you do this, you should give it a name like "Venus-8" so you don't confuse it with the original. *Be sure not to save it on your DeluxePaint disk!!*

ITERATIVE CONVERSION OF PICTURES TO EIGHT COLORS:
Use the following steps in Framer to use the **Current** palette option when presented with the "Too Many Colors" requester.

To begin with, load the "StarFlight" picture from your **DeluxePaint** disk and choose the **Best** palette option as before. Although the resulting image looks pretty good, the colors of the aliens were lost when the colors were reduced, because they were such a small part of the whole picture. The **Best** palette option works by using the most common colors in a picture, since it assumes that these are the most important. The following steps outline the steps needed to set the colors so that the next time you load the picture the aliens will look right. (Remember, the aliens were green and blue in the original picture).

First, choose **Change Colors** from the **Project** menu and look at the colors that were automatically deemed "best." Note that there are two pairs of dark colors that are almost identical. Change the fourth color (counting left to right across the two rows of eight rectangles) to dark green by clicking on it, and then adjust the **G** gadget to 5 clicks and leave the **R** and **B** gadgets at zero. Change the eighth color to a dark blue in the same way (**R**=0, **G**=0, **B**=5).

Now load **StarFlight** again, but this time choose the **Current** palette option. Rather than trying to figure out which colors are best, the **Framer** will simply fit the picture to match the colors you have just adjusted. This time you should see a green alien watching a blue one on TV.

All the pictures on the **DeluxePaint** disk look surprisingly good in only eight colors with the exception of the "Paint Can." This same technique can be used in **DeluxeVideo** to insure that objects have compatible colors. Just set the **Foreground** colors to the ones you want and load objects one at a time, always selecting the **Current** palette option.

CREATING DELUXEPAINT PICTURES FOR DELUXEVIDEO

Before you use the **Framer** to create an animated object, you must first draw each cel. In this section we will assume you are using either **DeluxePaint** or **DeluxePaint II**, although you can also use other paint programs that support the **IFF** data standard.

When you boot **DeluxePaint**, use low-res mode set to eight colors — the maximum allowed in **DeluxeVideo** — by using the command "DPAINT LO 3" at the CLI prompt. (In **DeluxePaint II** you can set the number of colors at startup or change to eight colors at any time by pulling down "Screen format" from the Picture menu.) This guarantees that the colors you use to create your animation will be retained when you move it into **DeluxeVideo**. Draw the first cel of your animation, and then use the rectangle tool to draw a one pixel thick rectangle around the cel. This rectangle will help you keep the rest of the cels aligned. If all the cels are not aligned, your animation will flicker or jump when it plays back. See the Framer tutorial in Chapter 3 for more information.

Now use the brush tool to make a brush of your cel (include the rectangle as part of the brush). At this point you can use either of two techniques. You can either stamp out duplicate cels using the first cel as a template, or just stamp one additional cel, make changes to it, create a brush from it, and stamp one additional new cel, repeating this until you have finished all the cels you need for your animation. Either technique will work; the choice depends on which works best for you. Be careful not to overlap the outline of each cel. They must just line up edge to edge, without any overlap, or the framer tool will not line up with the cels when you create your animated object.

When using two disk drives, the most expedient method for creating art to be used in the Framer is to use **DeluxePaint** as the boot disk, and to keep a data disk in the external drive. You can use the button labeled df1: to set your current directory to the external drive. Save the finished **DeluxePaint** screen in the Pictures drawer of your data disk, remove the **DeluxePaint** disk from the internal drive, insert the **DeluxeVideo** Parts disk, and reboot the system. This is the quickest way to switch from program to program without excessive disk swapping.

USING THE FRAMER: Once you have loaded the Framer, select Load from the Pictures menu. Load in the screen containing your cels, and then adjust the number of frames, if necessary, using Change Frame from the Project menu. You will need to set the number and orientation of frames to match your sequence. Now use the drag box to align the top left corner of the framer tool with the top left corner of the rectangle around your first cel. When they line up you will

notice that the overlapping lines of the Framer tool and the cel frame will change color. This helps you check the alignment. Now use the size box to pull the framer tool over the remaining cels in your animation sequence. When it is aligned properly, you should see only a single color line surrounding your sequence.

Now select 'Make Object From Frame' from the Project menu. This stacks the cels you have created on top of each other, as in a flip book. Each cel has an alphanumeric label that can be used to control the playback order. (See Chapter 3, Section 4 for a more thorough discussion). It's not necessary to draw any cel more than once, even if you want to use more than one in a sequence. It will use up memory in the Parts Pool that you be could using for other Parts.

Before you save your animated object, click on it with the mouse and drag it to the location on the screen where you plan to have it appear in your video. Although this is not critical, its location is saved when you save the object. By placing it in the proper location you can save processor time. Select "Save" from the Object menu and give your animated object a name. Note this on the Worksheet. You may also want to print the **DeluxePaint** screen you created the object from as a reference. You could paste the first cel from the printout onto the Worksheet.

DISASSEMBLING ANIMATED OBJECTS: If you want to see how several animated objects were created you can use the Make Picture From Object option in the Project menu. This will disassemble animated objects into their component cels. Try disassembling the Professor from the Instruction video. Some pictures will overlap when you load them in, and the frames won't be clear. If this occurs, note the number of frames in the object and the size of the frame, and make your best guess as to how those frames might be arranged on the screen. Then clear the picture from the Framer and adjust the frame corresponding to the way the frames are arranged on the screen. Then reload the picture; the result should be close enough that you can now adjust the frame to fit. When you're done, exit the Framer.

ADDING ANIMATED OBJECTS TO VIDEOS: Boot **DeluxeVideo**. To use an animated object in a video, pull down an Object track and then select the filename from the Object requester. Now pull down an effect, and select a Fetch effect from the Effects requester. Repeat this and then select an Appear effect. This gets your animated object

into memory and into position. To animate it you can use either the AnimCycl or AnimSeqn effect. We have found the AnimCycl effect is best only for simple repetitive animations. The AnimSeqn effect offers more control over the sequence of the cels and the duration of the animation. (See the discussion of the AnimSeqn effect in Chapter 7, Section 5 for more information.)

TUTORIAL: BUILDING A SIMPLE ANIMATION

Now that you've read the above sections (if you haven't go back to them now or you'll get left behind) you're ready to create your own animation. This will be a quick and simple run through, just to get your feet wet.

First a few preliminaries. When you load **DeluxePaint** or **DeluxePaint II**, the "Choose Screen Format" requester allows you to set the resolution and the number of colors. If you are creating a picture for **DeluxeVideo**, you should choose Lo-Res and eight colors. You can change this format anytime in **DeluxePaint II** by selecting "ScreenFormat" from the Picture menu.

- Load **DeluxePaint** and select Lo-Res with 8 colors. If you have a second disk drive, put your data disk in df1.
- Draw a happy face, smiling. Use the rectangle tool to draw a one-pixel box around the figure. This is the first cel in your animation (see **Figure 27**).

NOTE: The larger the framed objects, the more memory you use. Therefore, draw the frame as close to the object as possible.



Figure 27: Animation Example 1

- Now use the brush tool to pick up the cel, and stamp a new cel right next to the first cel. Be sure to line up the border of the second cel right next to, but not on top of the first cel (see Figure 28).

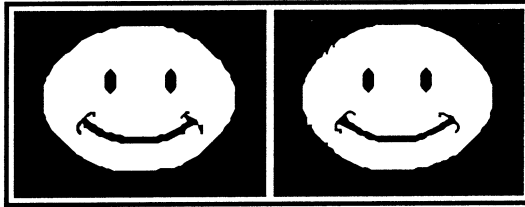


Figure 28: Animation Example 2

- Redraw the face to a neutral expression in the new cel.
- Repeat the third step and draw a frown on the face. You now have three cels of an animation (see Figure 29).

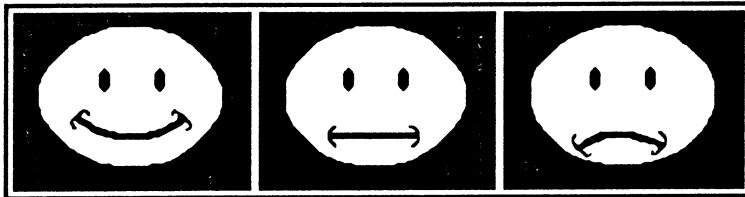


Figure 29: Animation Example 3

This will be your animated sequence. Save it in the Picture drawer of your data disk.

- Reboot using the Parts disk, and load the Framer. Load your sequence from the Picture drawer (see Figure 30). Then use the Change Frame requester to set the number of frames to three across (see Figures 30 and 31). (Note: a total of 99 frames are theoretically possible.)

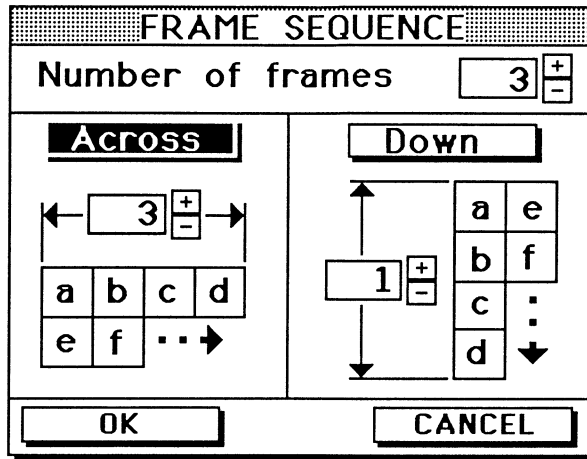


Figure 30: Animation Example 4

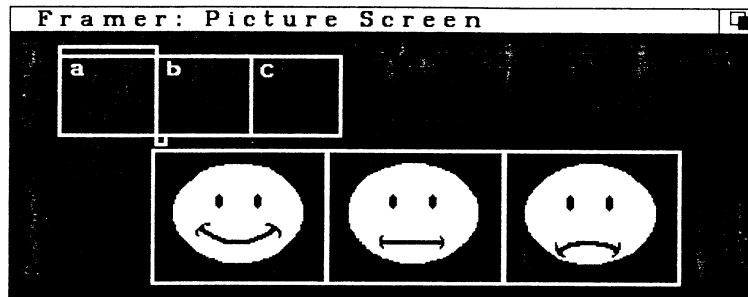


Figure 31: Animation Example 5

- Drag the Framer tool over the first cel and line up the upper left corner of the Framer with the upper left corner of the border on the cel.

Use the size box to line up the Framer with the other two cels (see Figure 32).

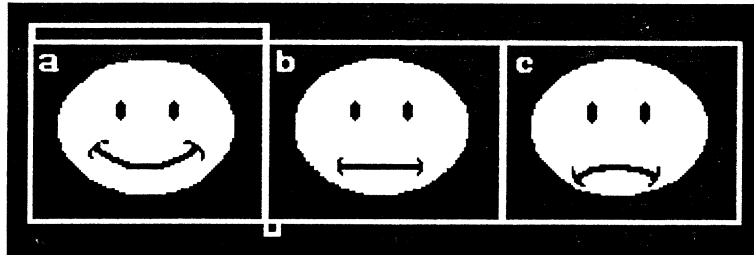


Figure 32: Animation Example 6

Make an object of the sequence, and then test it using the Animate option from the Project menu. Save your animated object.

- Now you're ready to make an animated video. Boot your Maker disk and open a scene window. Pull down an Object track, then select the filename from the Object requester. Now pull down an effect and select a Fetch effect from the Effects requester. Repeat this and select an Appear effect (see Figure 33).

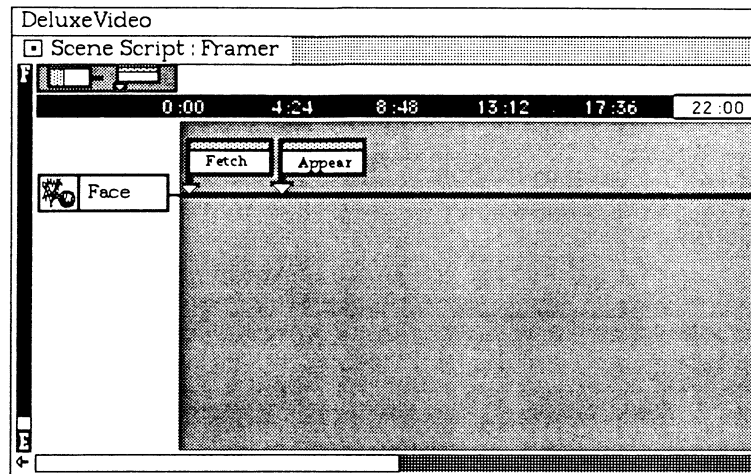


Figure 33: Animation Example 7

- Pull down one more effect and select AnimSeqn. Type in this sequence - "abcbabcbabcb", and leave the Repetitions at one (see Figure 34). Click OK.

- Select Play Scene from the Project menu and watch your animation happen.

You can combine animations with other effects as well. Using a Move To effect will add movement to your animation and a Size effect can give the feeling of perspective to movement. We'll be covering these techniques in the following sections.

4 SIMULTANEOUS EVENTS (OR CHEWING GUM WHILE WALKING)

You can combine effects to create more effective videos. Effects can occur simultaneously by placing their On arrows at the same point on a track, or at the same time point on other tracks. In this way you can superimpose effects to add movement to an animation, or to add perspective to movement.

MOVING ANIMATIONS

As we discussed in the section on the Framer, adding a Move To effect to an AnimSeqn effect creates the illusion of animated movement (see Figure 35).

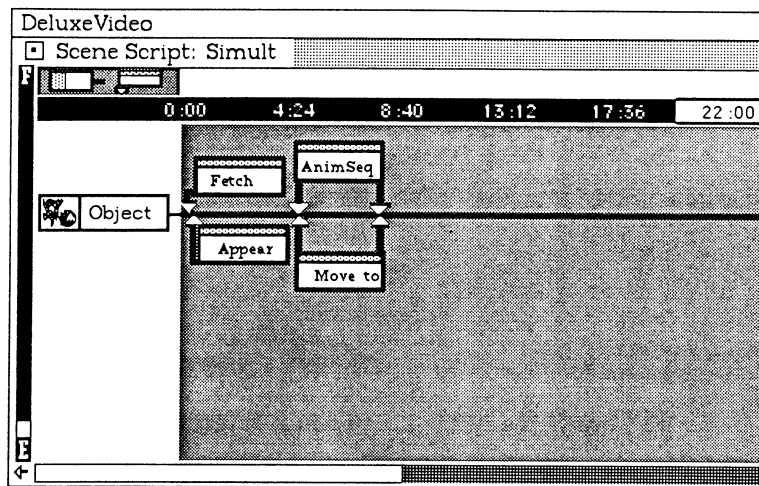


Figure 35: Animation Example 9

It's a simple matter to overlay the AnimSeqn and Move To On arrows, but this type of animation lacks any sense of depth. By adding a Size effect, or two Size effects, we can create a sense of perspective. Objects naturally appear to grow in size as they move closer to us, and shrink in size as they recede into the distance. To create the feeling of an object's moving away, add a Size effect with the setting at less than 100%. We suggest you keep the Height and Width settings the same to avoid odd or unnatural effects (unless, of course, you want them). To create the feeling of an object approaching, add a Size effect set to 0% after the Fetch effect but before the Appear effect. Then use another Size effect set at 100% to increase the object's size as it moves. You can see an example of this combination in the Space Shuttle scene (see **Figure 36**).

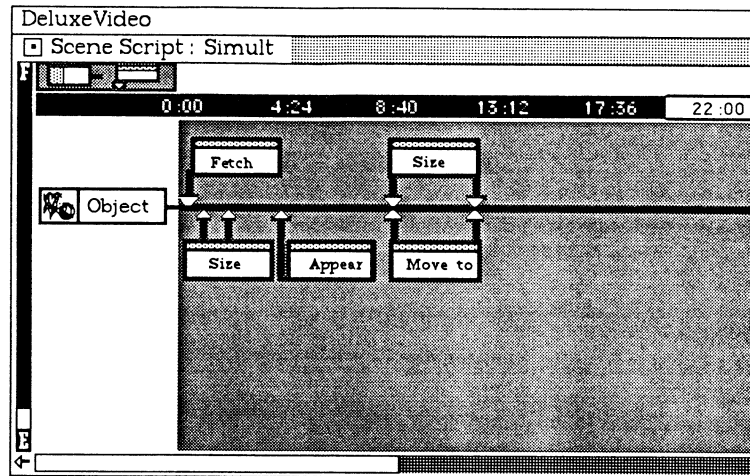


Figure 36: Animation Example 10

STROBING MOVEMENT

In addition to animation effects, other combinations of effects also work well together. You can use the Strobe effect with Move To to leave a trail behind the object being moved. This will also hold any objects Disappeared from the Foreground from disappearing until the Strobe effect ends. Strobe and CycleClr also create interesting effects as do Strobe and Stamp. Try these combinations in test videos of your own to see how they work together.

CREATING SIMULTANEOUS EVENTS

When you are using more than one effect at a time, you should keep several design considerations in mind. **DeluxeVideo** needs time to prepare and display each event. Some events take more time than others, and some combinations of events take a lot of time. Size and Rotate effects are the most time consuming, so you need to plan your videos accordingly. Generally it's not a good idea to have more than one object being Sized and Moved at the same time. Bear in mind that as you create more simultaneous events, the number of discrete steps in each event may decrease. This can result in Moves that look jerky, or even in events or parts being eliminated from the video. You can remedy this in part by putting the tracks that contain simultaneous events at the bottom of the Script, thereby giving higher priority to the other events.

5 TIMING CONSIDERATIONS

DeluxeVideo recognizes two broad categories of time: "Real" and "Normal" time. In general terms, Realtime corresponds to time as measured by a clock or wristwatch, while Normal time (which is available through the **Normal Speed** option) ignores the time it takes to load files from disk. Each has its advantages.

NORMAL SPEED

When playing a video at normal speed, **DeluxeVideo** compares the time on the clock with the script and redraws the screen in accordance with the effects operating at that moment. Once the screen is redrawn, **DeluxeVideo** increments the clock by the amount of time it took to carry out all the effects. The amount of time **DeluxeVideo** needs to redraw the screen depends on the number and the complexity of the effects. For example, because of the complexity of the calculations involved, it takes less time to redraw the screen when the space shuttle object moves from one location to another than it does to redraw the screen when a line of polygon text is rotated to a different angle. It also takes longer to redraw the screen as the number of tracks and effects increases, with a

corresponding loss in smoothness. Typical redisplay times for most videos vary from a few jiffies to fifteen or twenty jiffies per frame (i.e., from 15 frames/second down to 3 or 4 frames/second). You can test this by playing a video in step mode; use the right arrow to advance the frames, and compare the changes in the timer.

Similarly, **DeluxeVideo** does not count the time it spends reading from disk. This insures that the video will play smoothly whether or not **DeluxeVideo** needs to read parts into memory while a scene is playing. You can tell that **DeluxeVideo** is reading when the mouse pointer changes from a hand to a "zz-cloud" (the little pointer icon that tells you the computer is busy). If **DeluxeVideo** does read from disk when running at normal speed, the elapsed time on the remote control will differ from the time on your wristwatch by the amount of time spent reading from disk. Most videos should be played at normal speed.

REALTIME

If you want to synchronize your video with music from a music track or with music from an external source, you should run it in Realtime. When **DeluxeVideo** plays a video in Realtime, it does count the time it spends reading from disk, making it easier to synchronize the video with an external event. However, this requires greater care in preparing the script. For example, when you want to load and wipe a picture, place the Load effect far enough before the Wipe effect so that there is time to load the picture into memory. Typically this is two or three seconds on a floppy disk system, but it could be significantly less on a RAM-disk or hard-disk system. If you do not place the Load far enough before the Wipe, the Wipe effect will not operate smoothly because the first frame time after the load may fall within (or even after) the Wipe effect.

When playing a video in realtime, the elapsed time on the remote control will match the time on your wristwatch.

1/2 AND 1/4 SPEED

By playing a video at these speeds and recording it on a video

recorder that can record at slow speeds and play back at normal speed, you can end up with a smoother video. In this way the video runs as if time were slowed down, so when you play the video tape at normal speed the video will look smoother because its frame rate is effectively doubled or quadrupled.

SUPERSLOW

If you have access to a video recorder that can record single frames by buffering them, then you can use Superslow to produce a very smooth video.

When running at Superslow, **DeluxeVideo** operates normally except that it adds only 1/30 of a second to the clock each frame instead of the actual time it took to generate the frame. This results in the standard 30 frame/second video frame rate. When you view a video at this speed, you will see the clock advance by 2/60 of a second each frame and the video will appear to speed up and slow down as the complexity of the script changes. To achieve the benefit of Superslow, you need to run both **DeluxeVideo** and your single frame recorder manually. Here's how:

- Select Superslow from the Options menu and prepare your VCR for recording.
- Select Play Video and then stop the video as soon as it begins playing. Press the Rewind button on the remote control.
- Select the single-step (...) button on the remote control so you can advance the video frame by frame.
- Press the front-to-back button on the remote control to hide it behind the video screen.
- Drag the mouse so as to hide the screen hand in the lower right hand corner.
- Press the right arrow key on the Amiga keyboard. This has the same effect as pressing the forward button on the remote control and will advance the video clock by 2/60 of a second, causing the video screen title to disappear.

- Begin recording in single frame mode on your VCR.
- Each time you are ready to produce the next frame on the Amiga display, press the right arrow key. As the frame is being generated, you will see the tip of the mouse pointer appear in the lower right corner of the display. When it disappears, it is your cue that the next frame has been displayed and it is time to record a single frame on your VCR.
- Continue pressing the right arrow key and recording each frame until the video is completed.

If you are able to program your Amiga and you have a single frame recorder that can be controlled by a computer, you may be able to automate this process. If you can connect your VCR to the Amiga and instruct it to record a single frame under computer control, you could create a task that controls your both your VCR and **DeluxeVideo**. Instead of manually pressing the right Amiga key, your task could send an right-arrow RAWKEY event to the **DeluxeVideo** task.

6 ADVANCED TITLES

Once you've mastered some of the advanced features of **DeluxeVideo**, you can use them to create new effects and designs in text displays. Although this section is called Advanced Titles, most of the techniques discussed here can be used in any video that uses text, not just titles.

SPECIAL POLYGON TEXT

Although objects cannot be rotated, you can rotate the special set of characters in the Polygon Text (see **Figure 37**). To create these characters, see Chapter 7, Section 4, "Polygon Text." To see the characters on the screen, select Show from the Edit menu.

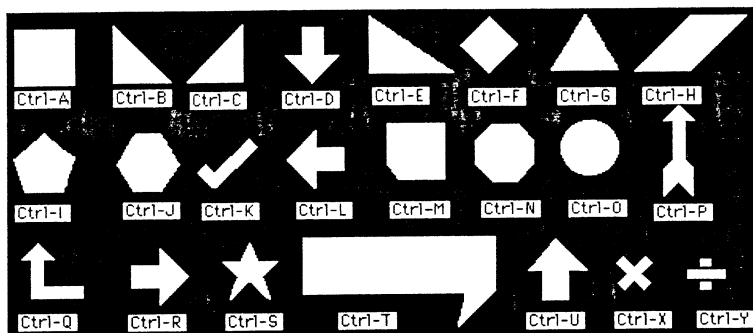


Figure 37: Special Polygon Characters

Use these special characters to add spice to title Text. In addition, you can use Strobe to create unique effects to title Text. Using the Strobe effect with a Move To effect, and leaving it on a little longer than the Move To will leave a trail on the screen and make the foreground letters flash. Also, Strobing in a new Text line will cause Text lines already in the scene to flash. By adjusting the timing between the Strobe and Move To effects, you can create trails that are a series of duplicates of the Text, or a solid smear. Experiment with different combinations of the attributes of Text lines: Jam 1 and 2, Comp, and Inv. Each of these will create a different trail.

TWINKLES

You can create a 'twinkle' or star reflection effect on text using the Framer. First, create the Title using DeluxePaint in Text mode. Make an animation sequence with the text by first making an additional cel of the text, then adding the twinkle to certain areas of the text. Start with a small star shaped (four, six or eight pointed) twinkle in a specific location, then copy the cel and add a larger twinkle in the same location, then copy the cel and add a

larger twinkle and so forth until each successive cel shows a larger twinkle than the last. You can add several stars at various points on the letters, but we recommend that you place them at edges that would naturally catch light from a single point (see Figure 38).

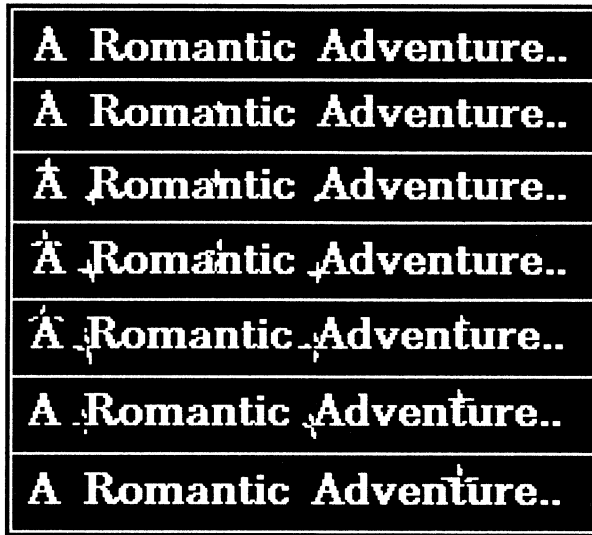


Figure 38: Twinkles

Save the drawing, and then load it into the Framer and make an animated object of it. We've tried making an animation of just the twinkle without the text, and overlaying it, but it's harder to get the alignment right.

GLOWS

Glow effects are also possible using **DeluxePaint**. Use **DeluxePaint** to create a line of text, then outline the letters with a one pixel thick border surrounding each letter. Do two or three of these borders, each in a different color. The text must be large enough so

that adding the borders will not distort the text and make it unreadable. Save the text as a brush in the object drawer. When the text is used in a scene, use the Cycle Color option and set the three border colors of the text as the colors in the cycle range (see Figure 39).

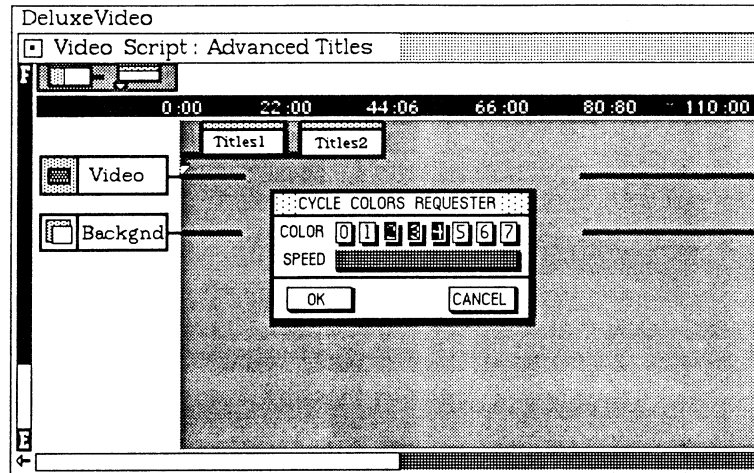


Figure 39: Example of How to Create a Glow

DeluxeVideo can use any new fonts that become available for the Amiga. When you install new fonts on your Maker disk, and use them in your videos, be sure to install the new fonts you use on your Player disk as well.

7 MUSIC AND SOUND

If you plan to add music to your videos, do so at the beginning of the creative process. Timing can be very important when planning events, and cueing events to specific musical moments is best done by testing each set of events as they are added. Remember that the Play effect will have its duration set automatically by the size of the score that you load. If you lengthen the duration the music will repeat to fill the extra time. If you shorten the duration the music will be clipped.

The timing of sounds is even more critical than that of music. Having a crash sound before the crash can be very confusing to the viewer, and will destroy any surprise element in the event. The careful use of Fetch effects and the precise placement of the onset arrow for the Play effect will ensure the correct timing of your Sound effect.

TECHNICAL CONSIDERATIONS

You need to deal with many more elements when using music and sounds. The files must be of the correct type; SMUS ("Simple Music") files for music, and 8SVX files for sound effects. 8SVX files are sampled sound files (instruments) and must be shorter than 24,000 bytes (though sound effects larger than 28K can be used if you have extra memory and have changed the **DeluxeVideo** memory option to Medium or Large). If you are creating your own sampled sounds using a sound digitizer, be sure to keep the samples below this size limit. The SMUS files used in Music Tracks should not contain imbedded instruments, as they will be ignored. They should however contain INS1 file chunks that describe the instruments the music requires. Check the documentation that came with your music creation software to see if it creates files of this nature. (Two programs from Electronic Arts do, and both are recommended: **Instant Music** and **Deluxe Music Construction Set**.) If **DeluxeVideo** does not find INS1 chunks it will use the default instrument. You could substitute any instrument file for the default file by deleting the default file and renaming your substitute "default."

USING DELUXE MUSIC CONSTRUCTION SET WITH DELUXEVIDEO

A **Deluxe Music Construction Set** score must first be saved as a SMUS file to be used in **DeluxeVideo**. In order for **DeluxeVideo 1.2** to play the music properly, there should be no instrument changes during the song, and the **Deluxe Music Construction Set Sounds** menu must list the instruments in the *same order* as they're used in the song. If you have a staff with two tracks, make sure that you have an instrument in the **Sounds** menu for each track. For example, if the first staff has two tracks of trumpet and the second staff has one track of bass, the **Sounds** menu should read: Trumpet, Trumpet, Bass. Use **Remove Instrument** and **Load Instrument** to rearrange the order of the instruments in the **Sounds** menu, if necessary. Once the instrument order is correct, save the music as a SMUS file.

HOW MUSIC WORKS IN DELUXEVIDEO

DeluxeVideo's Music Requester (see **Figure 57** in Chapter 7) lists all the files it finds in the Music drawer. When you click on the name of a tune in the "On Disk" column, **DeluxeVideo** opens the file and checks to make sure it is an IFF file in SMUS format. **DeluxeVideo** first reads the music into memory and then writes it back to disk in your video file.

DeluxeVideo expects music programs to include INS1 ("Instrument 1") chunks in SMUS files to specify the names of the instruments for each of the tracks. When **DeluxeVideo** reads an SMUS file, it scans for INS1 chunks. **DeluxeVideo** does not expect to find instruments imbedded as 8SVX ("8-bit sample voice") chunks within SMUS files, and any such chunks are ignored.

If **DeluxeVideo** finds an INS1 chunk in the SMUS file, it displays a requester listing the names of all instruments the tune will need and prompts you to insert an instrument disk. If you choose "Cancel," it will use the RAM instrument for the tune. If you choose "Load," **DeluxeVideo** opens the instrument drawer and searches for the required instruments. You can change the instrument drawer by choosing **Drawers** from the Options menu. If **DeluxeVideo** does not find an INS1 chunk in the SMUS file, it will look for a file named "Default" in the instrument drawer instead.

DeluxeVideo tries to open each instrument. The instrument name must be an exact match for the file name in the instruments drawer — **DeluxeVideo** does not try to do any substring matching. If the 8SVX instrument file is found, it is read into RAM and then written into the video file. If the instrument is not found, **DeluxeVideo** searches the instrument drawer for an instrument named "default." If it can't find the default instrument, it uses the RAM instrument (which sounds like a piano). After the instrument search finishes, **DeluxeVideo** displays a requester listing the names of the instruments that were actually used.

Because instruments are so big, tunes are played with the RAM instrument when the Maker is running (i.e., when the speaker is clicked in the Music Requester or Play Effect Requester). Tunes are played with the correct instruments or as many of them as will fit in RAM, when the Player is running.

Capacity:	Up to 4 tracks per tune
	Up to 8000 bytes per track
	Up to 24000 bytes per instrument

(Note: If you try to load an instrument or a sound that exceeds 28K, **DeluxeVideo** will attempt to load the extra bytes into a buffer, an operation that will only succeed, in most cases, if you have extra memory.)

MIXING MUSIC AND SOUND

The Amiga has four sound channels mixed into two stereo outputs. Musical instruments and sound effects occupy one channel apiece. When you create a musical score that uses four instruments, you are using all four channels. If you want to play a sound effect while music is also playing, create a musical score that uses only three instruments. Otherwise, since the sound effect takes precedence over the music, and you'll lose part of the music track. As you add more elements to your video, the amount of memory available for music and sounds decreases. It's possible that sound effects will be ignored if there are too many other items in the Parts Pool when you try to play the effect. If you set your sound effect to play on only one side, you are confining it to one channel. This may help it to play while a

three channel music score is playing. Testing is the only reliable way to determine the combination of effects that will produce the desired result.

8 TELECOMMUNICATIONS

One of the great advantages of creating videos on a computer is that the result can be sent over the telephone lines to someone else in a few minutes. Sales presentations can be sent to branch offices, animatics can be sent to clients for approval, and updated point of purchase displays can be sent to retail locations.

TELECOMMUNICATIONS BASICS

To send a finished video via telecommunications you need a suitable terminal software package. Most terminal programs use a variant of XMODEM transfer protocol, which sends a file in 128 byte packets. If the data file is not some exact multiple of 128, the last packet will be padded with null bytes to equal 128 bytes. All terminal programs with XMODEM do this automatically. However, not all terminal programs understand how to remove the padding on the receiving end before storing the file to disk. This could result in a file that the Amiga will not accept.

To avoid this, you must make sure that your terminal software can eliminate the null bytes from transmitted data files, and that it uses the same technique as the terminal software being used at the other end. Consult your terminal program manual for further details on sending Amiga data files. **DeluxeVideo** creates a video that is a single file. However, you should bear in mind that the Icon that is associated with your video is a separate file. It has the same name as your video with the suffix ".info" appended to it. You will need to send this file as well.

VIDCHECK

Before you send your video, you should compress it with the VidCheck program on your Parts disk. This will remove any unused tracks or parts. It will also print out a list of all the parts used in your video if you wish. For more information on VidCheck, see Section 9 below ("VidCheck Details").

ARCHIVE AND LIBRARY PROGRAMS

You may also want to use an Archive or Library program on your video before you send it. These programs are used to combine separate files into a single file for telecommunications transmittal. Most also use a data compaction algorithm to compress files before they are transmitted. The advantages are that you only need to send a single file (you compact your video and its Icon), and the transmission time is less. Most Archiving programs for the Amiga also prepack the archived file to a multiple of 128 bytes. This protects it against the problems of XMODEM transfers. The receiving party must have a copy of the same Archiving programs. Several programs of this type are available as Public Domain software from user groups.

TERMINAL SOFTWARE

We have successfully sent archived and unarchived videos using several terminal programs. You should test any combination of sending and receiving programs before committing yourself to a critical application.

9 MISCELLANEOUS TIPS AND HINTS

CUSTOM TEMPLATES

You can create your own video templates for certain applications that use Text or other standard objects. Create the video with all

the Tracks and effects you want, and only enter a single character in the Text Requester. When you want to use your template, load the video, and click on the Text Track and enter your new Text in the requester.

WIPE EFFECT

When using the Wipe effect Requester, be sure to enter numbers that are evenly divisible into 320 and 200 in the horizontal and vertical boxes, otherwise your new Background may not fully cover your old Background, leaving a thin edge on the right side and/or at the bottom of the screen. For example, 3 horizontal and 3 vertical will not divide evenly, where 4 and 4 will.

REVERSE PLAY

To play a video in reverse correctly, you must first play it all the way through in forward. Music and sound effects will not play when you play a video in reverse.

VIDCHECK DETAILS

Just in case you're curious, here's what the VidCheck printout means. Each effect, part, track, every discrete piece in a video is assigned a separate ID by **DeluxeVideo**. Each piece is also assigned a usage count. When VidCheck finds a piece with a usage count of 0, it deletes it from the video. It also recopies the video and compacts it at the same time. There must be space on the disk for VidCheck to recopy the video. VidCheck first lists the name of the video, its duration, and the memory allocation. It then lists what's used in the video by ID, name, and usage count. For Music Tracks it lists the instruments used. It then lists the Script Tracks and effects, and finally each Scene's Tracks and effects. The Script and Scene lists include breakdowns on the effects that are used with each piece, the ID, start times, durations, and which Track each effect is on. Also listed are any coordinates used by effects, and any AnimSeqns. Thus, you can trace where each event occurs, and which effects are on which Tracks.

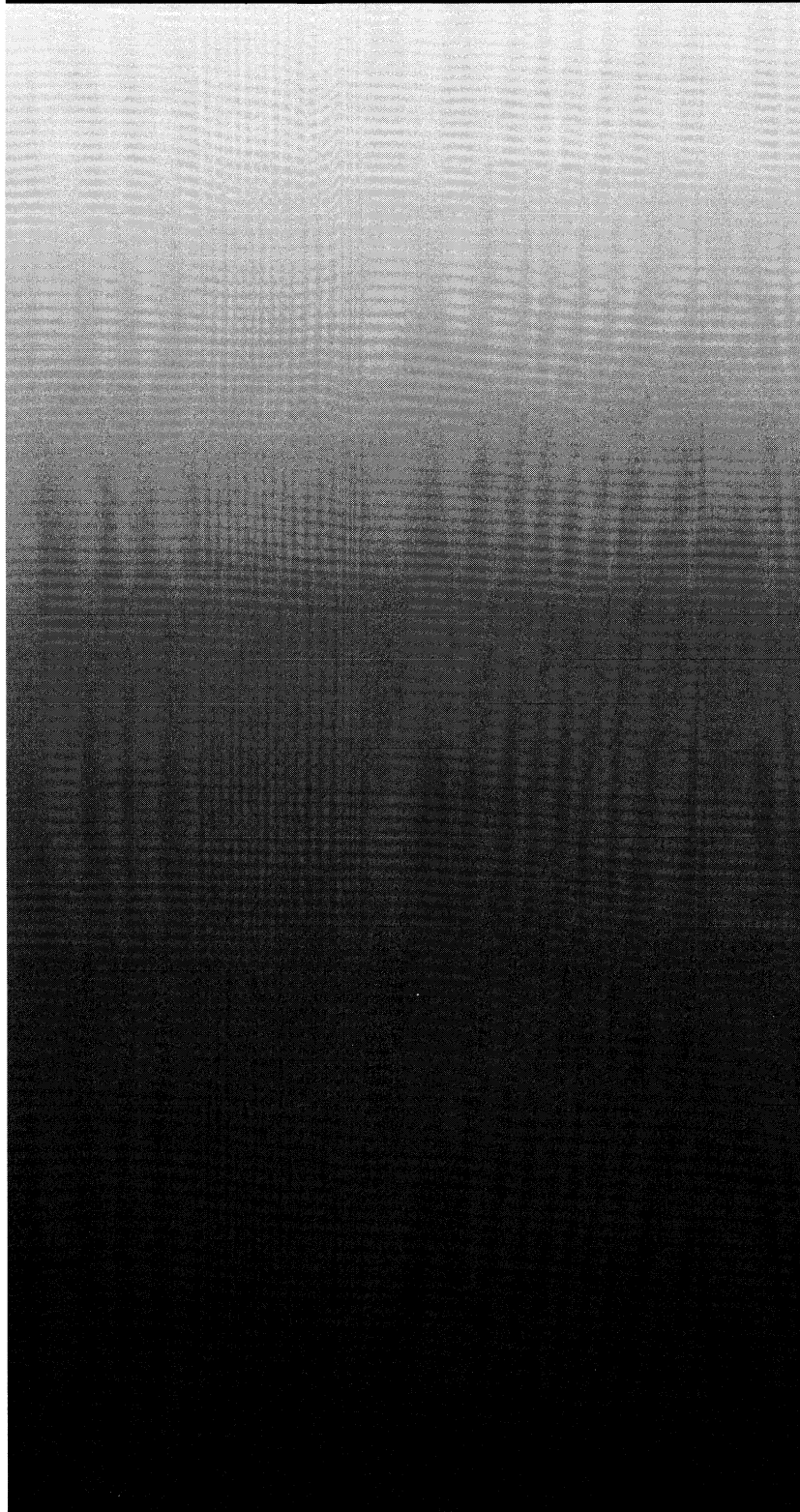
HARDWARE COLOR 0

Color 0 in the Background Palette is hardware color 0. This is useful in Genlock applications (See Chapter 6, Section 2).

COLOR BLEEDING WHEN VIDEOTAPING

Some users report that when they videotape their videos, some of the colors bleed together. If this is happening with your Amiga, try Amiga's RF modulator, which should correct the problem. Using a genlock will also correct color bleeding.

NOTES



NOTES

1 ANIMATICS

Animatics are animated storyboards used by the broadcast industry for testing advertising concepts. Traditionally, animatics have been produced by videotaping storyboards and adding voice overlays. The cost of producing an animatic can range from one thousand dollars to well over twenty thousand dollars. However, by using computer-based graphics instead of traditional felt markers and board, animatics can be produced at considerable savings.

DELUXEVIDEO ANIMATICS

DeluxeVideo can be used to produce animatics at a fraction of the cost of traditional methods, and with far greater opportunity for multiple versions and last minute changes. The simplest approach using previously prepared storyboards would be to use a video digitizer (see Chapter 6, Section 3) to convert the art into IFF compatible files, and then display it in sequence using **DeluxeVideo**. While this approach may be conceptually simpler, it may end up being more tedious.

Much more effective, and in the long run, far easier, would be to create the original storyboards using **DeluxePaint**. Quick changes would be easier, there would be no need for a video digitizer, telecommunications software would allow for a remote client's approval (see Chapter 4, Section 8), and the finished storyboards would be ready for entry into **DeluxeVideo** (see Figure 40). You can even use a printer to produce hard copies, if you want.

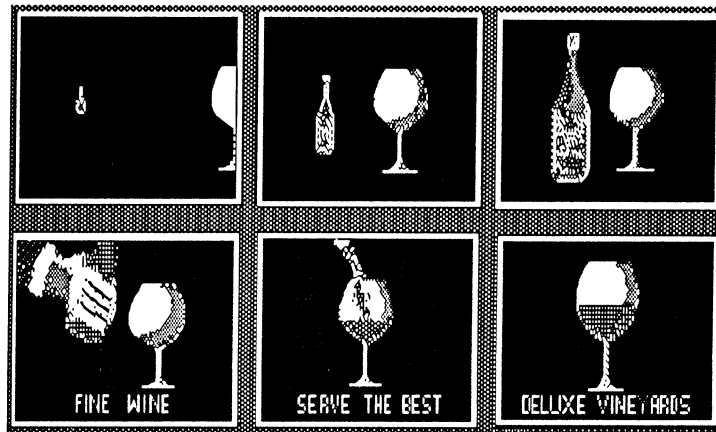


Figure 40: Example of an Animatic

USING ANIMATICS

Animatics are sometimes presented as cartoon-like still frames (see Figure 40). Using *DeluxeVideo* you could enhance each frame with music, digitized voice overs, animated overlays, creative wipes and fades, and then present the finished product on the Amiga or dub it to video tape (see Chapter 6, Section 2) for locations that do not have access to an Amiga. Finished Animatics could also be telecommunicated directly to a client if deadlines and deliveries are critical.

Animatics are extremely useful for concept testing, both from a production aspect and an audience aspect. Problems in segues from scene to scene, testing of special effects, storyline coherency, and soundness of concept can all be tested for a fraction of the cost of a full production thirty second spot.

2 COMMERCIALS

Until recently the only access advertisers had to television audiences was through network television. Ad rates were out of reach of most small businesses, both in the production cost of the ads and the airtime cost. Recent changes, such as low power TV stations, cable networks, satellite networks, corporate networks, narrow-casting, and, of course, **DeluxeVideo**, have opened up new avenues for smaller scale, targeted advertising by small businesses and regional suppliers of goods and services.

POTENTIAL MARKETS

Low power TV stations broadcast within a limited range, and are not required to carry any particular programming. In addition, they are not covered by most of the regulations that apply to full power stations, even though they are licensed by the FCC. Over 150 low power stations are currently on the air, and the FCC has issued construction permits for an additional 850.

In addition, most cable networks need to sell advertising space to local businesses to cover their cost of operations. Not all cable companies are large. Satellite Master Antenna TV cable networks (SMATV) service condominiums, apartment complexes, and housing developments. They usually have open channels that are not being used, and are perfect vehicles for local advertising.

A new development is corporate network TV. As part of the video conferencing phenomenon, corporations are beginning to use their installed base of video distribution (live and on tape) for other purposes. Tapping into this network may soon be a growing business.

COMMERCIAL DESIGN

Producing your own commercials requires a good background in advertising. One place to start is commercial TV. Forget about the programs themselves — it's the commercials you want to look at.

Notice how they are structured, how often they repeat the product name, how they tie the use of the product to a lifestyle or look. Notice camera angles, lighting, cuts and wipes, pay attention to the dialogue or voiceover. You won't be able to duplicate the exact look and feel of ads that cost over \$100,000 to produce, but TV is the cheapest school you can attend on ad design.

TV TUTORIAL

In this tutorial, we will be building a station ID for a fictitious low power TV station. The only part you'll need to create to reproduce the ID is a sketch of your state (see Figure 41).

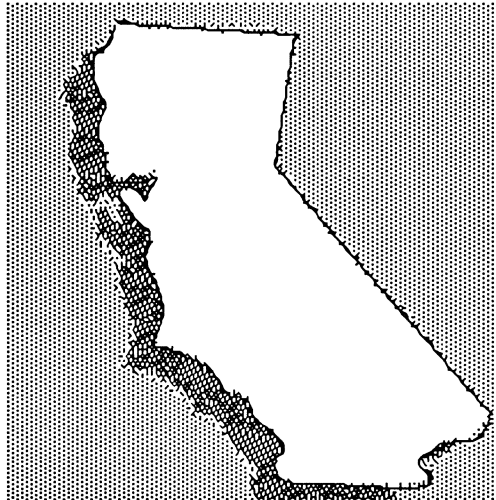


Figure 41: California Example 1

The Script we are going to describe uses several advanced effect combinations. Look at the Script diagram (see Figure 42) and notice the Foreground track. It is used to control the WBFA logo track (#2) and the Polygon Track (#5) containing the tumbling star.

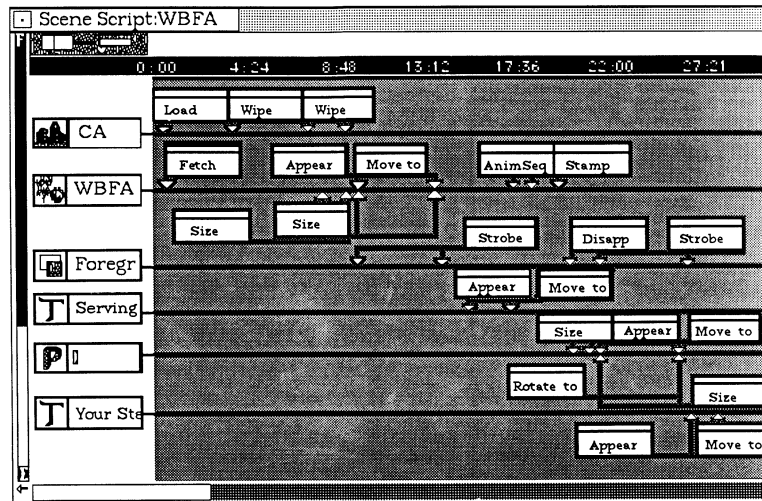


Figure 42: Script Diagram

Let's go through the video one track at a time.

Track #1 Loads and Wipes on the background screen of California. You can select any wipe, or just jumpcut it onto the screen.

Track #2 fetches the station logo. This can be any object you create in *DeluxePaint*, or you can substitute a Text track. You can use an

animated object for more interesting effects as well. The logo is sized to 0% in both dimensions before it Appears, and then it is Sized to 100% and Moved to create a perspective effect. The Strobe effect on Track #3 creates a trail behind the logo as it is Moved. The Stamp effect is used to conserve memory and make the Moving of the text on Track #4 smoother (see Figure 43).

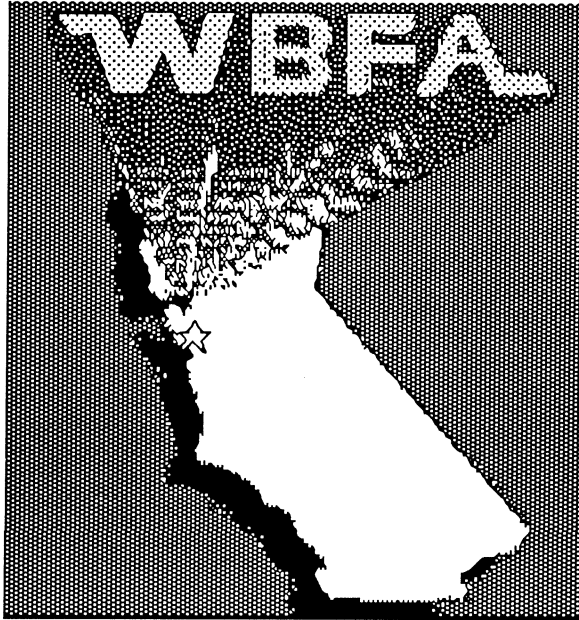


Figure 43: California Example 2

Track #3's first Strobe effect has been explained. The DisApp effect is used to erase the logo and the first text line. The second Strobe effect controls the Polygon Track #5.

Track #4 is a Text track with only an Appear and Move To effect (see Figure 44).

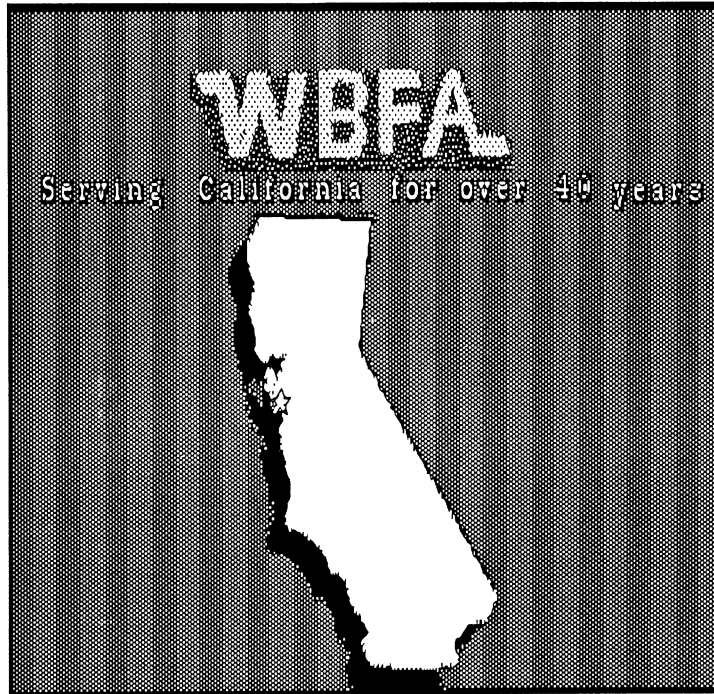


Figure 44: California Example 3

Track #5 uses one of the special characters in the Polygon text set. The character is a star. It is Sized to 0%, Appeared, then Moved, Rotated 360%, and Sized to 100% simultaneously. The second Strobe effect on Track #3 creates a trail behind the star as it Moves. The end of the Strobe effect erases the trail (see Figure 45).

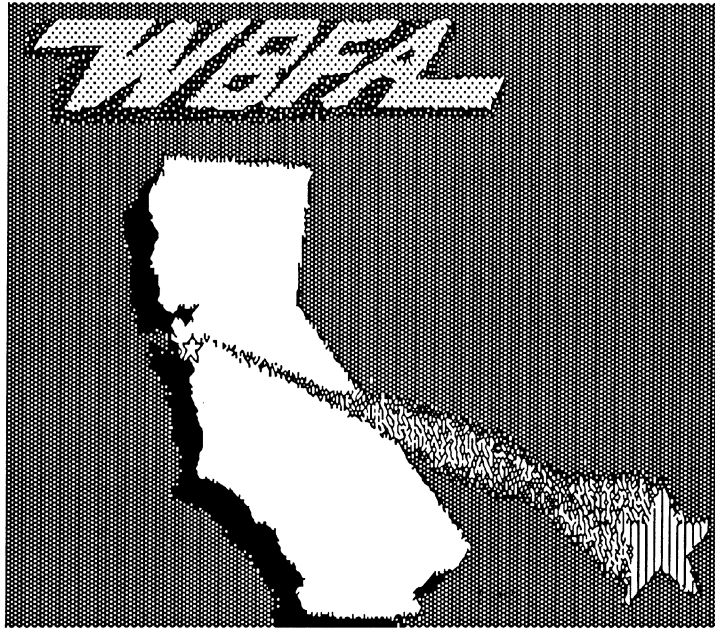


Figure 45: California Example 4

Track #6 is a Text track with only an Appear and Move To effect (see Figure 46).



Figure 46: California Example 5

3 PRESENTATIONS

Any kind of presentation can be enhanced through the use of **DeluxeVideo**. Sales presentations, school assignments, scientific, news, professional, legal, financial, and corporate presentations can all benefit from a well designed video.

SCENE GENERATORS

For many applications the Scene Generators (see Chapter 7, Section 6, "Scenes Menu") are a fast and easy route to follow. You can produce Pie and Bar charts, Titles, Text Slideshows, and Credits

quickly and easily just by filling in the requester. They produce scripts that can be modified to suit your particular needs if the standard script is not sufficient.

ROLLING YOUR OWN

With a little forethought, and some artistic sweat, you can create animated presentations that are certain attention grabbers. Animated bar charts with the bars being rolled out like red carpet, line charts with the lines cycling through the color palette, airplanes parachuting last month's sales figures onto the X axis of a bar chart, and so on. You can also add sound effects and music to accent your presentation.

COLORS

You could spend years just studying colors. In fact, professional artists do just that. Color consultants make a good living advising lesser mortals on mixing and matching various color combinations for pleasing results. There are a few rules of thumb that you can use to assist yourself, and like all rules, use them only as long as they are helpful. Don't let them restrain you from trying outrageous mixtures.

The basic tool for color design is the color wheel. Imagine a circle, filled with a rainbow. The colors start at the top, yellow, yellow-orange, orange, red-orange, red, red-violet, violet, violet-blue, blue, blue-green, green, and yellow-green. Colors next to each other on the wheel blend together, colors across from each other contrast strongly. You can use this to create powerful combinations of colors, or pleasing harmonious blends. Color wheels can be purchased at art supply stores.

Text is a special case. In any presentation it's far more important that the text be readable than multi-colored. Strong contrasts in colors may seem fine at first glance, but they can often create discomfort for the viewer over a long period of time. A more effective approach would be to use colors that are neither adjacent

nor opposite on the color wheel. Combinations like yellow on a violet background or green on a blue background are easier on the eyes. Even more important is the relative brightness of the background and the text. If the background is dark, use light lettering, and vice-versa. Drop-shadowing or edging will also improve the readability of the text. A graphics program such as **DeluxePaint** makes it easy to create such effects.

Keep the final viewer in mind. Will the video be shown on an Amiga RGB monitor, or a video projector (see Chapter 6, Section 4) Will it be reproduced on video tape? Some color combinations look fine on an RGB monitor but fuzz out or bleed on a composite monitor or TV. One way to avoid disappointments is to either preview the presentation or create it on a composite monitor using the video out from the Amiga.

OTHER CONSIDERATIONS

Text should always be large enough to be read by every viewer. Remember, not everyone has eyesight as good as yours. Readability is primary in any presentation.

Charts and graphs are a far more effective way of presenting information containing a lot of figures. Keep your graphics simple, well labeled, and uncluttered. Be sure to leave them on the screen long enough for everyone to have a chance to absorb their content, but not so long as to bore.

Sound effects are very useful as a tool for holding attention, but should be use sparingly. Too many snaps, pops, and crackles can be annoying. Music is a more effective means of holding attention, but it should not be allowed to become the center of the presentation. If you plan on speaking during the presentation, keep the music low.

If you are not going to be present at the presentation, make sure that all the material is self-explanatory. If you are including supporting documentation, you might want to make reference to it at the beginning of the presentation to insure that the viewers have a copy in their possession.

4 INTERACTIVE VIDEOS

One of the most promising areas for the use of **DeluxeVideo** is in the production of interactive videos. Point of purchase displays, training productions, educational media, travel information, language training, and simulations are just a few of the possible applications.

KEYWAIT AND KEYCHAIN

Keywait and KeyChain are used specifically for creating interactive videos. Keywait acts as a pause at any point in a video, and waits for a specific key to be pressed, and/or for a specific period of time to pass. This allows a viewer to read or comprehend a screen before continuing with the rest of the video. KeyChain lets you set up a branching video path, where one of several videos is displayed depending on the viewer's response (see **Figures 47 and 48**).

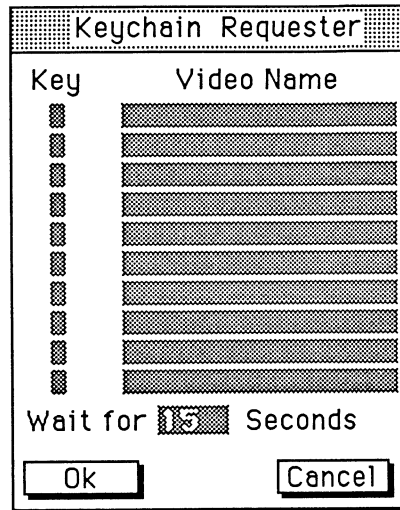


Figure 47: KeyChain Requester

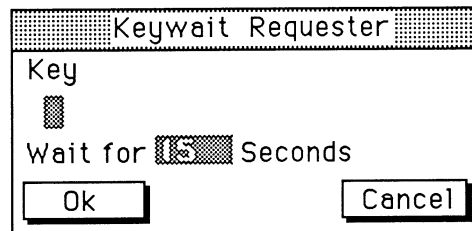


Figure 48: Keywait Requester

KeyChain is the key to creating interactive videos. The KeyChain Requester lets you select up to ten videos at each branch. You can set up a conditional flow in which portions of a video are played only if the viewer does not respond in time, and where different videos are shown depending on the viewer's selections.

INTERACTIVE DESIGN

Consider the following elements when designing an interactive video:

- Audience - Who are your intended viewers? What age level, attention span, background, and motivation? Will it be an educational, display, or other type of video?
- Goals - What is the intended purpose of the program? What are your goals in creating it?
- Flow Chart - This is the primary design stage of your video. Decisions made at this point will shape the final result, and so need careful consideration. What material should you cover? How will you handle timeouts and wrong answers? Will you reiterate material if it is not learned the first time?
- Storyboard - Use the Worksheet (Chapter 4, Figure 26), to sketch out your ideas before using **DeluxePaint** to draw them. A rough outline of the art can save you a lot of production time later.

INTERACTIVE EXAMPLES

The Player disk contains an example of interactive design. The Demo uses KeyChain to let you select a video, and also uses the timeout to avoid waiting forever if you can't decide.

If you want to create a simple interactive video of your own, try creating one that teaches the alphabet to children. We have only programmed the first three letters of the alphabet, but you could follow our concept to complete the whole alphabet.

After deciding on our audience and goals, we created a flow chart (see Figure 49).

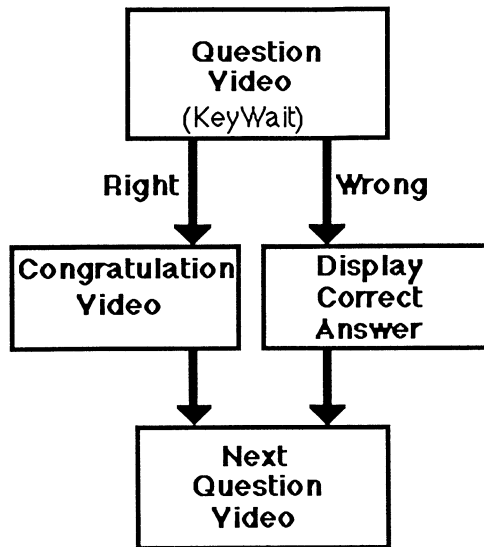


Figure 49: Flow Chart

This allowed us to see that we would need an object created in *DeluxePaint* for each letter of the alphabet. We chose to create an apple for the letter "A", a boat for the letter "B", and a cat for the letter "C" (see Figure 50).

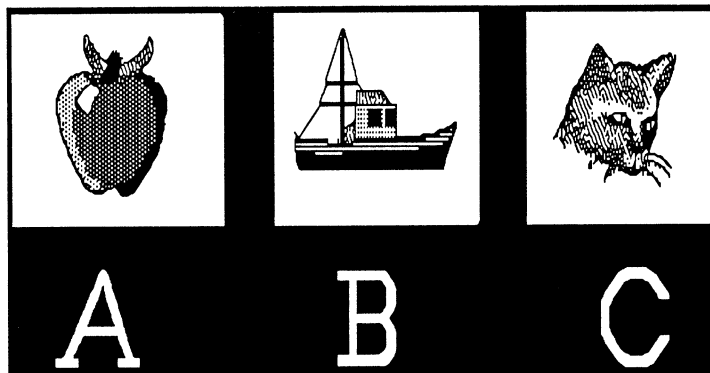


Figure 50: Interactive Example 1

The finished Video's structure is simple. It displays an object on the screen, then offers three possible names and waits for the viewer to press the correct letter of the alphabet on the keyboard. If the correct key is pressed, it then goes on to the next object. If the wrong key or no key is pressed it displays the right key and then goes to the next object. Each object has its own video, and we've only reproduced the script for the letter "A", as each video is virtually the same (see Figure 51).

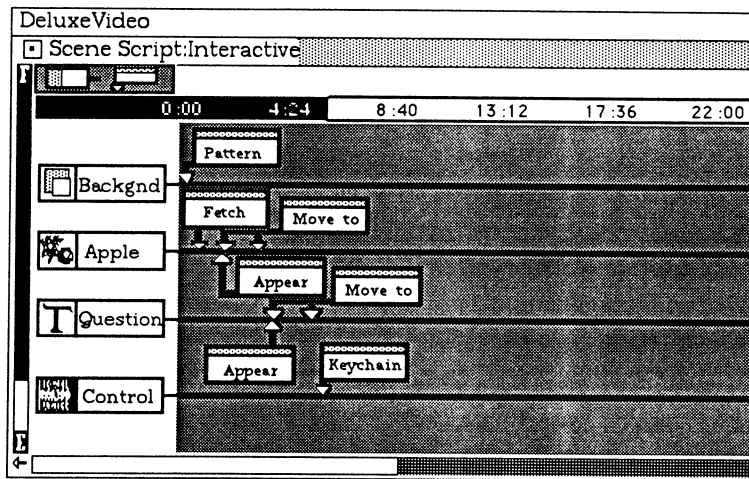


Figure 51: Interactive Example 2

You could add an option to quit at each KeyChain, and either display the option after each letter or at the beginning of the video.

5 VERTICAL MARKET APPLICATIONS

Desktop video publishing is growing at an exponential rate. Over 30% of the households in the United States own VCR's. Corporations are increasing their use of video in training, communication, and promotion. Niche markets are developing for small video production companies. There are literally hundreds of possibilities; let's take a look at some:

SPORTS TRAINING

The how-to market in sports is booming. Sports pros are producing tapes on their winning techniques, training programs, and philosophies. A step by step tutorial on the rules, strategies, and skills needed to become proficient in a particular sport seems like a natural application. Imagine drawing play diagrams from an aerial view of a basketball court or creating an animated sequence of the correct angle for holding a tennis racquet.

Another category is sports medicine. More and more, individuals are recognizing that there is a right and wrong way to exercise. An animated explanation of the muscle groups, showing the effects of certain types of exercises, and suggestions for exercise routines would find a large audience. A more advanced production could use an infra-red camera connected to a video digitizer to show the effects of exercise.

COOKING

Many people prefer cooking at home to dining out, and the longstanding success of cookbooks is a testimony to our desire to prepare something more than TV dinners. We'd like to see a video cookbook. You could use keychain effects to create an index, and let the user select the recipe that whets their appetite.

EMPLOYMENT INTERVIEWS

This might be a little ahead of its time, but if video dating is still around, who knows? A video resume would certainly stand out, and it would also allow for a more interesting presentation of your background. We suggest keeping the soundtrack soft and middle of the road, unless you already know the musical tastes of your prospective employer. Also, keep the total time of the video under five minutes. That's the approximate time it takes to read a standard resume.

TOURS

This has at least two immediate possibilities. The first is information for tourists planning a trip. A video tour preview of the places they are planning to visit could be used to let them select the specific sights they wish to visit. They could also get information on costs, opening times, seasonal weather variations, and other important facts.

The second is tours of real estate for sale. Real estate agents could produce videos of the interiors and exteriors of their listing. This would allow prospective clients the opportunity to view several properties without leaving the agent's office. Naturally, this makes sense only for large commercial and residential listing, but in time, standard templates could be created for single family dwellings.

REPAIR MANUALS

Have you ever tried to follow the exploded view diagrams in an auto repair manual? Wouldn't it be easier if the parts moved into place while you were watching? Imagine a manual that let you select the repair procedure you needed, then listed the parts and tools required and demonstrated what was involved step by step. Or an interactive diagnostic manual, video based. This could be expanded to include anything that needed repairs; toasters, refrigerators, lawn mowers, and bicycles. You could even create a video based repair manual for VCR's.

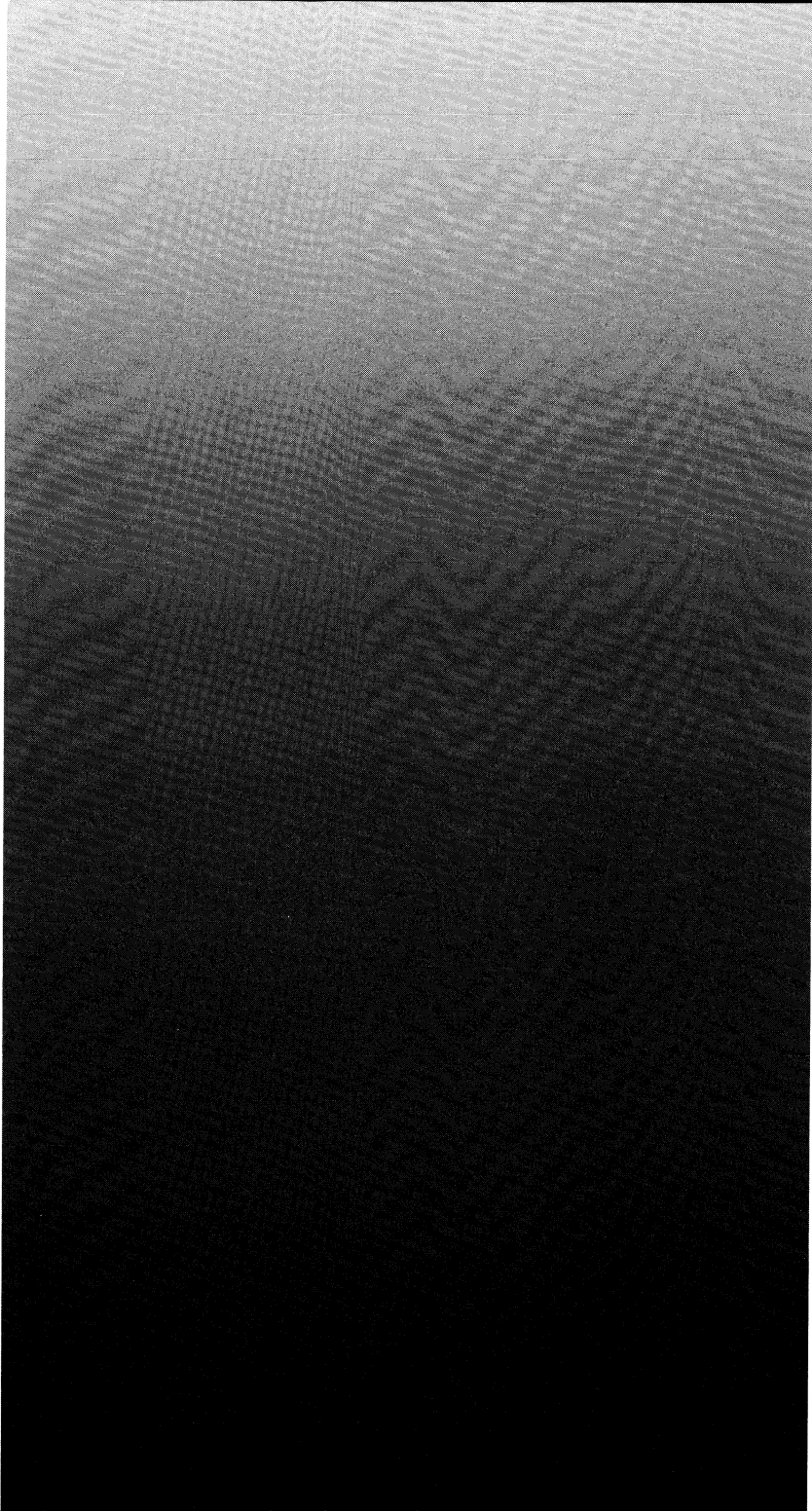
PROCEDURE WRITING

One of the major costs in hiring new personnel in any business is procedure training. How to do what they were hired to do. Automating some of that training reduces the cost of hiring, and keeps trained personnel on the job. Simple tasks like filling out paperwork correctly (remember your 1040 long form) can be handled with an interactive video.

GENERAL EDUCATION

All of the above ideas have one thing in common: education and dissemination of information. Whether it's teaching a farmer the correct use of pesticides on his crops, a child about Mozart's music, a stamp collector about an upside-down one-penny airmail, or a two left-footed hopeful how to dance, the common denominator is learning. People learn best when they have a full environment to learn in. The more rewarding and fulfilling the experience, the more positive the response.

NOTES



NOTES



DeluxeVideo will work with a number of peripherals to let you build a professional workstation as you develop your video expertise. This section is an introduction to some of the ways you can connect your Amiga to such peripherals. give you best results.

1 VIDEO CASSETTE RECORDERS

If you are in the market for a VCR we recommend that you look for a deck with step frame capabilities, fast scan, and stereo sound. Test the record function on any deck you are considering buying by bringing a tape with an existing video recorded on it. Try recording a short segment, press pause, wait a moment, and record some more. On playback, note what happens at each edit point. If there is very little jump, it's a good deck. Other things to look for include the ability to pause in play and go to record without going out of pause. You should test any deck that has this feature in the same manner as above. The deck should also have audio dub capability. This will let you add a soundtrack to an existing video track. Some decks have video dub that let you record video over an existing audio track. Soft touch controls are also a plus in editing.

CONNECTING TO A VCR

If you want to record the videos you create on videotape, you can connect the **Video Out** from your Amiga to the **Video In** on your VCR. In addition, you can connect the **Audio Out** (both channels) from your Amiga to the **Audio In** on your VCR. If your VCR does not accept two-channel input (that is, if it is not stereophonic), use a Y-connector to merge the Amiga's two channels into one monaural channel, and connect that to the **Audio In** of your VCR.

If you want to monitor the signal going to your VCR, connect a monitor to the **Video Out** on your VCR. If your monitor accepts sound input, connect its **Audio In** to the VCR's **Audio Out**. You can keep everything connected this way even when you are not recording; just switch your VCR on to get a signal to your monitor. If your VCR can accept single-frame recording, see Chapter 4, Section 5 for information on using **DeluxeVideo**'s different playback speeds to

2 GENLOCK

GENLOCK BASICS

GenLock is a device that can take two independent video sources and superimpose them to create a single video signal. Thus GenLock can accept one input from the Amiga and one from another video source, such as a VCR, video camera, or broadcast TV. If you want to use inputs from a VCR and the Amiga, you will need to have a second VCR to record the combined signal.

To clarify what Genlock does, imagine yourself holding a can of spray paint. Your job is to spray the inside of a glass faced tube completely once every 1/60 of a second. A control panel hangs in front of your face, telling you when to spray each of the three colors you have in cans, and where to spray them. Now imagine two control panels, with conflicting information on each. When you mix two video signals, each tries to control the electron beam, your spray paint. Unless they are perfectly in sync, the result is chaos. Genlock is a means of synchronizing two discrete video signals.

DeluxeVideo uses sixteen different color registers in the Amiga, eight in the foreground and eight in the background. The first color selected in the background is known as Color 0. Rather than merging each video signal into one signal, a process that would most likely produce an unintelligible collage, the Amiga Genlock 1300 underlays the incoming video signal beneath the computer produced display. This underlay can be seen wherever Color 0 is on the screen (see **Figure 52**).

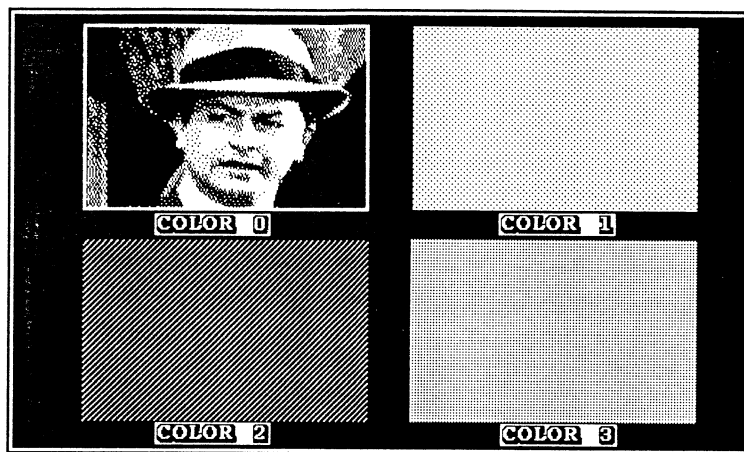


Figure 52: Example of a Genlock Underlay

It's very important to keep this in mind whenever you use genlock with **DeluxeVideo**. Plan carefully to avoid unexpected results, especially when using Color 0 while creating images with **DeluxePaint**. By keeping track of where Color 0 is used on the worksheet, you can predict where the live video will show through.

GENLOCK USES

You can create professional effects using genlock. One of the easiest is scrolling titles over live action. Connect a VCR to the video output of the genlock to record your titles. Set the background Color 0 to any color and use the Titles scene generator to build your video.

Play the titles video while recording your live action or input from another VCR. When you have finished with your titles, you can fade the background to black to prepare for an easy cut to the next scene. Another technique for cutting in titles is to use a background color other than Color 0, run your titles sequence, and then use a wipe to Color 0 to bring on the first scene. You may want to try several practice runs to get the timing right the first few times you try this.

You can also use genlock to add post-production edit fades and wipes to your videos. These are easy to create, and make post-production editing on home VCR's much easier. *Punch and crunch* edits often roll at the edit point, and this can be hidden by using horizontal wipes, or fades to black at the edits. Other wipes will also distract attention away from unstable edits. To add a fade to black at the end of a scene, fade in a background color other than Color 0 set to black.

SPECIAL EFFECTS

If you want to simulate some of the special effects used on network television, here's one trick you can use. Create a foreground track and set Color 7 to black. Create a Polygon text track using a single character - CTRL a. Set both its colors to color 7. Size it to 620% high and 500% wide, and set its position to 79,84. Now make a copy of this track and reset its coordinates to 238,84. You must use two Polygon tracks because DeluxeVideo will not display a polygon that is larger or equal to the screen size. Create a background track and set it to Color 0 by calling up a solid black background. Create a new Polygon text track (or use an animated object) and set it at the top of the scene so that its priority will cause it to appear on top of the previous Polygon tracks and set both its colors to Color 0. Now, when you move your object around on the screen, live video will show through. You could then Disappear these elements, let the entire live video show through, or strobe the object to wipe the live video in. You can also use this technique without Genlock to reveal a standard background instead of live video (see Figure 53).

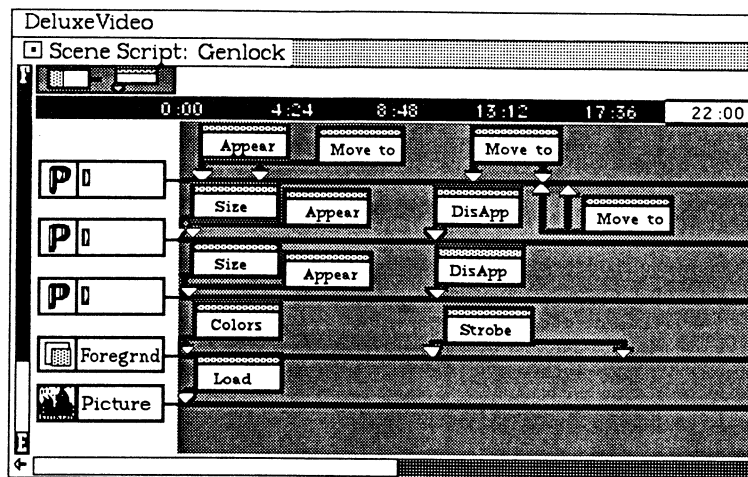


Figure 53: Example of a Genlock Scene Script

You can also use Framer to superimpose animation sequences onto live video. Small creatures can wander about a video of your living room, looking under chairs and peering up the chimney. Charts, graphs, and pictures can appear next to a commentator as they explain the meaning of the display.

AUDIO

The Amiga Genlock 1300 will also control the audio mix between your Amiga and the audio from your external video source. In practice this may not be important if you are creating a videotape as a final product, since you may want to dub a mixed audio track onto

the tape after all the video segments are completed. However, if you are using genlock in a live environment, the audio mixing capabilities may come in handy.

OTHER GENLOCKS

Other genlock devices are available for use with the Amiga. For example, the Telecomp 1000 from Universal Video has a unique feature that lets you place the live video in a window on the screen. For more information on this and other genlock devices contact the manufacturers listed in the Vendor Reference at the back of this manual.

3 VIDEO DIGITIZERS

The Amiga stores images in digital form, while video displays images in analog form. A genlock device allows mixing of the two, but if you wish to save video images to disk, display them without access to a genlock device at every location, or manipulate them in other ways, you need a video digitizer.

HOW A VIDEO DIGITIZER WORKS

Because a video signal is a wave form, it needs to be converted into a bit mapped image so that the Amiga can recognize it. Imagine drawing a horizontal line dividing the wave into plus and minus levels. Then take a sample check every few nanoseconds to see if the wave is above or below the line, and assign an on or off value to a pixel each time you do a sample. If the pixel has an off value, display it as black; if it has an on value, display it as white. You've just digitized a black and white image (see Figure 54).

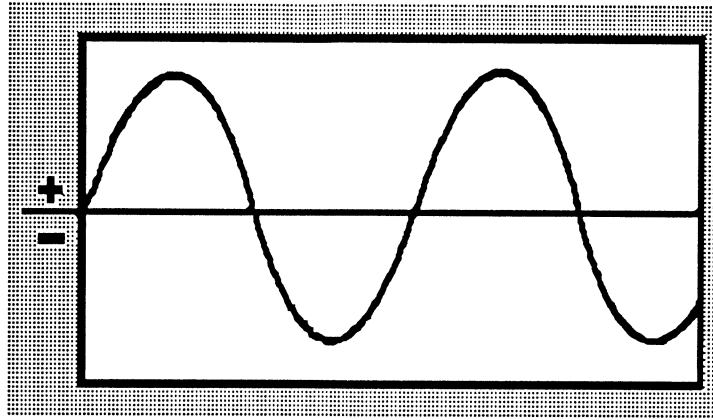


Figure 54: Example 1

You want more than just black and white? Simple, just define more levels to check for each time you sample (see Figure 55). Each extra level will give you another gray between black and white.

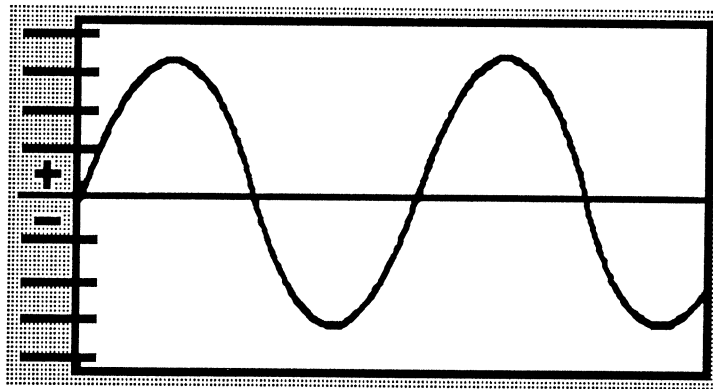


Figure 55: Example 2

Of course, checking for more than one level takes time, and this

creates some tradeoffs (see below). If you want color as well, just assign a color to each level sampled. For the colors to have some relationship to the real world, put some artificial intelligence into the software and let it make the decisions. Of course we'll store the image in IFF format so you can use it in **DeluxeVideo**.

A LITTLE DEEPER

In reality, things are a little more complicated than the short explanation above. Video happens fast. Trying to convert a video image into a bit mapped image in real time is like trying to turn a waterfall into ice cubes in real time. You need either a very small waterfall or a very large icemaker. Different frame grabber designers solve the problem in different ways. The main problem is trying to convert the entire video frame into a full color bit map in real time. That's millions of bits of data in 1/60 of a second.

It is just about impossible to stuff an entire video frame digitized in color into the Amiga in real time. Traditional frame grabbers use buffer RAM built into the hardware of the video digitizer to hold the image while it is being digitized. It is then flashed into the memory of the Amiga where it can be manipulated or stored to disk. This type of device has some drawbacks. It costs more to build, as it needs its own RAM. Viewing the digitized image in real time is not possible, since there is a lag between the time the bit map is built and the time it is transferred to the Amiga's memory. This results in a jerky, stutter-step look to the real time display, although it does not affect the single video frame that you select and store.

One solution is to not try to get all the information from one frame. By using successive frames, the data transfer rate can be less, and images can be transferred from the frame grabber to the Amiga's memory in real time. One problem with this technique is that there may be changes in the video image from frame to frame. This can result in smearing or color fringing of the bit mapped image. Advantages to this technique are lower cost to manufacture (and therefore purchase) and smoother real time display of the image.

A third approach to the problem is to digitize the images but not in real time. One manufacturer markets a digitizer that requires

several seconds to digitize an image. This effectively eliminates the use of live video as a source for images. Once again the main advantage is lower cost to manufacture.

PURCHASE CONSIDERATIONS

Before you purchase a frame grabber, you should make up a list of the reasons you need one. Use this as the base requirements that your unit needs to fulfill. Then check these additional functions:

- Video inputs - will it accept inputs from live video, VCR's, laser disks, other computers.
- Does it digitize in real time? Can you view the video source?
- Will it work with extended memory, hard disks, other accessories? Where does it connect to the Amiga, does it have its own power supply, and does it 'take over' the machine?
- How flexible is the supporting software? Can you set the number of colors digitized, do false color mapping, create special effects? Can you store digitized images as an object?
- Is the supporting software easy to use?

USING A FRAME GRABBER WITH DELUXEVIDEO

A Frame Grabber takes an image from any video source (TV, VCR, personal computer, etc.) and digitizes it, turning it into a file that can be read by **DeluxeVideo** and **DeluxePaint**. You can then use that image in your videos. Frame Grabbers are great if you have difficulty getting started drawing an image. Just find a scene existent in video, digitize it, call it up in **DeluxePaint**, and use it as a basis for your image. (Remember most video images are copyrighted, just like software is. It's one thing to borrow inspiration, and another to copy wholesale. Use your judgment in deciding which is which.) If you need a sketch of a person, digitize a head shot. How about a company logo, new product, or corporate

office? Building an instructional video on how to fill out the latest Form X-1374-AB42. Digitize a copy and lay text in, line by line. Doing a sales presentation? Digitize the product, and use it to build bar graphs representing sales quotas.

You can also create unique special effects and animations. Take a look at the "Gilliam" video on the Player disk for an example of how a digitized image can be combined with animation to create a simple but effective video.

Here's one more idea: You can digitize several views of an object, rotating it slightly before capturing each new image, and create an animated object out of the set of rotated views. Playing this back would create the effect of an object rotating. Use a globe of the Earth, adding a starry background and some appropriate music, and you've created the introduction to an environmental video or a space adventure.

4 ADVANCED VIDEO HARDWARE

Once we move beyond the basics of consumer VCR's, a whole world of video hardware opens up. Editing decks, edit controllers, switchers, special effects boxes, digital still stores, time base correctors, the list goes on. Much of this equipment is priced out of reach of all but the professional video studio, but this is changing. The same technological advances that made the Amiga possible and affordable are at work in the video world. Over the next few years you will find equipment that once was only affordable in dreams waiting for you at consumer retail outlets instead of professional video dealers. At the industrial level, the change is occurring even more rapidly. As always, carefully evaluate the merits and costs of any equipment you are considering purchasing. Make sure it will perform all the tasks you require. Compatibility between manufacturers' equipment is sometimes limited, so consider the long term expansion potential of any system before you are locked into it. In almost every city you can rent equipment before you buy.

SMPTE TIME CODE

One element that ties most high end video equipment together is SMPTE (Society of Motion Picture and Television Engineers) time code. This is an identification system that labels every frame of video with a unique number. This allows you to mark a particular event on a video tape and locate it later by its time code. Since time code is absolute (unlike the footage or time counter on a consumer deck) a tape does not have to be rewound or played back on the same deck to find a particular event. Some decks record SMPTE on an audio track, others can 'hide' it in a normally unused portion of the tape. SMPTE can also be recorded on audio tape and used to match audio to video exactly in time. Generally SMPTE is only available on industrial machines.

EDITING DECKS

One strategy that helps hide edit glitches is pre-recording black on a tape ("black striping"). To black stripe a tape, just record nothing on the entire tape. By using a black striped tape, and black fade ins and outs, most edit glitches will become unnoticeable. You can add black fades to your *DeluxeVideos* to also help hide edit glitches. But to edit tape, this technique is not sufficient for all situations. Editing video tape requires precise control over tape position, extremely accurate reproduction, and the ability to edit two separate video sources without tearing, flagging, or color smearing of the video signal. For such editing needs, editing decks provide these as well as other features, and you may want to consider purchasing one, and possibly two.

Video signals contain reference signals such as horizontal and vertical blanking, and color burst. When you edit from one video source to another, if these references are not in sync the edit point is unstable, and on playback will exhibit tears, smears, or color instability. One element of video stability on a VCR is accurate, stable playback speed at the tape head. This can be enhanced by using a framing servo that fractionally adjusts the playback speed to compensate for wow and flutter (unwanted tape motion). Processing circuits can control horizontal phase. A blanking servo is

used to perform the edit during the vertical blanking interval (when the electron beam is going from the lower right corner of your monitor to the upper left). This can help eliminate (or at least hide) any instability in the edit.

Editing decks often have six video heads: two for normal playback and recording, two for still and search functions, and two rotary erase heads for insert editing. The heads should be driven by direct-drive servo-controlled brushless DC motors.

Some of the other important features that can be found on editing decks include a pre-roll function. One problem with punch and crunch editing is that it takes decks an appreciable amount of time to get up to normal speed. Editing from a dead start induces playback error. Pre-roll lets you locate and mark your edit points and automatically roll back a few seconds. When you start your source and edit decks at the same time they can roll for a few seconds, and automatically perform the edit at the marked edit point.

Another important feature is the ability to record in 1/2 or 1/4 speed, or the ability to record in single-frame mode. Playing your video in at 1/2 or 1/4 speed or in superslow with these recorders can produce a much smoother video (see Chapter 4, Section 5).

A good editing deck should also have high speed (10X to 15X) search in both directions, as well as stable still frame and slow search. Stereo audio, noise reduction, audio and video recording level meters, tape counter, multiple input and output connectors and tape end warning are other features to look for. External sync capability is essential for an upgrade path from entry level editing, as is interface capability to an edit controller. Front loading comes in handy when rack mounting or stacking components.

Editing decks with these functions and others are available in VHS and Beta as well as 3/4 inch (see below).

SINGLE DECK EDITING: Single deck editing is limited but if you preplan, you can create some interesting effects. Record titles on a tape before you shoot the main portion or add credits to the end of a tape. If you want to try insert editing (putting the new scene in at the correct time on the counter), make careful note of the times of the segment you wish to overdub and the **DeluxeVideo** segment you are

going to add. Good reflexes and lots of practice on the pause control will pay off in the long run.

Several segments of **DeluxeVideos** can be edited together to create a feature length animated special. Horizontal wipes can sometimes be used to help hide edit glitches if you are creative.

TWO DECK EDITING: If you own a second deck or rent one for a time you can use assemble edits. Preview the tapes you plan to edit, and create an edit list of the segments you will assemble. If you have live audio on the tapes, first edit and assemble the final soundtrack, and use it as a guide to creating and timing the edit list. You may want to dub the audio onto an audio cassette. By playing it back during your editing, you can match your video edits to the audio cues. If your deck has audio overdub you can add the finished audio tracks after the video editing is done.

EDIT CONTROLLERS

Given the functionality of an editing deck, the next step is adding control to the editing process. This is done through an edit controller.

An edit controller automates the editing process. Generally, two search dials control the tape position on each deck, while display counters track each tape to frame accuracy, fast scan and auto assembly of edits. By marking any three points in the edit, the controller can calculate the fourth point and preview the edit before assembly. This allows back edits, where two events need to end at the edit out point. By setting one edit in point, the other can be set automatically. Edit points can be trimmed frame by frame, marked, auto pre-rolled, and assembled. The last edit out point can be set automatically as the next edit in point. Most machines have a lap timer for timing each edit, making fade-ins as well as outs of edits, and some kind of audio editing capability. Edit controllers that utilize SMPTE can store a series of edits and print out an edit log for future reference. A few can store the edit log to disk.

If you decide to purchase an edit controller, check to see what editing decks it will work with. Some edit controllers can be used with 1/2 and 3/4 inch decks. A minimum configuration system

consisting of two editing decks (one recorder, one playback only), and an edit controller (all 1/2 inch) costs about \$5000. This is assuming you use your computer's monitor. A 3/4 inch system can add \$5000 to \$10,000 to the cost.

CAMERAS

A good camera can cost over \$30,000. For less than that you have to make concessions. Generally a good camera should have excellent resolution, resist burn-ins and coming from bright lights, have good low light sensitivity, and reproduce color accurately. Other features may include auto focus, auto exposure, wide range zoom, and auto fades. Nevertheless, the most important part of your camera is the tube.

The most common camera tube is the vidicon (or "Newvicon"). This low cost tube is satisfactory for most applications. A more expensive and potentially better tube is the Saticon, used in most industrial cameras. It is not as sensitive in lower light, but at normal illuminations it has a better image quality. The high end of camera tubes is held by the Plumbicon, used in 'broadcast' quality cameras. Plumbicons are used in three tube cameras, as each tube is only sensitive to one color of light. A newcomer in camera tubes is the CCD chip (not really a tube). Cameras made with CCD's are less sensitive to shock, smaller, lighter, and use less power. They are also virtually immune to burn in, but have poor low light capabilities.

If you need to shoot a lot of live action video, buy the best camera your budget will allow. You cannot make bad video look better with any amount of editing. For occasional use, rental is the best way to go. Video cameras are sensitive to many adverse conditions, and are easily damaged. A burnt camera tube can cost 75% of the purchase price of the camera to replace.

CAMERA HINTS: If you own a video camera that will do in-camera fades, we suggest that you use them wherever you plan to do an edit. Fade in from black at edit entry points (where the new picture will occur), and fade out to black at edit exit points. The black screen will help hide the edit glitches (video "static" like

snow, picture fragments, tearing or rolling of the picture). This is not essential, but it will help in some instances.

SWITCHERS, TIME BASE CORRECTORS, DROP OUT CORRECTORS, FRAME BUFFERS, AND DISTRIBUTION AMPS

Switchers are related to edit controllers. Simply put, they let you switch between different video sources without glitches. Switchers are professional level equipment (read expensive) that usually offer a variety of effects as well as switching. Wipes, fades, tumbles, spins, and colorizations are some of the effects they can handle. Switchers are the heart of professional edit controllers. One low cost switcher worth mentioning is made by Showtime Video Ventures (\$500 - see Vendor Reference).

Just as in an audio tape player, the movement of video tape past the playback head is not always perfect. Tape can stretch, motors can wow or flutter, resulting in a distorted video signal. On a monitor this can cause flagging, tears, color shifts, and luminance changes. Time base correctors (TBC's) were designed to deal with this. A video display is composed of lines, 525 in a frame. TBC's convert the analog video signal into digital information, store it to RAM, read it back out, and overlay it on new sync signals to correct any timing errors. Most TBC's store only two to thirty-two lines at a time.

Most TBC's also act as Drop Out Correctors. Drop outs are missing information on a video line caused by dirt or missing oxide on the video tape. A DOC can patch the missing line with information from an adjacent line.

A frame buffer is similar to a TBC with sufficient memory to store at least one full frame of video. A single frame frame buffer can give a perfect still frame by sending the same frame over and over from memory. Larger frame buffers are used with video paint systems. Buffers that can store up to 200 frames allow each frame in a sequence to be called up, modified, and sent back to the buffer to be written to tape later as a continuous sequence.

Distribution amps are used when you want to send the same video signal to more than one monitor at the same time. It's not a good

idea to just use a 'Y' connector to split the signal. This can induce all kinds of errors in the signal. Distribution amps provide strong, stable signals, and are available with just about any number of outputs.

3/4 INCH VIDEO

This is where the professional level usually starts, as do the professional budgets. Sony seems to have a lock on the market at this level, although opinions vary. You get more features, much better resolution, SMPTE always (very useful in editing), and a certain amount of acceptance from video snobs. Tread carefully as costs go up logarithmically.

VIDEO PROJECTORS

If you need to do presentations to large groups on a regular basis, consider a video projector. DeluxeVideo and a projector would make an excellent business graphics presentation system. There is a tremendous variety in price and function, starting at \$1500 and passing \$100,000 without slowing down. If you're interested, there are excellent guides in the May '86 issues of Audio-Visual Communications and Videography (see Chapter 7, Section 8, "Vendor Reference"). Sony makes a portable unit with a playback deck built-in. Also we suggest you at least look at the Kloss projectors if you are interested, since most retail outlets carry them. Be sure the projector you select will handle the Amiga's analog output if you intend to use it directly connected, as that output is superior to the composite video output.

PORTABLE VIDEO PLAYBACK UNITS

Just as computers have become transportable, so have video playback units. In fact they bear a remarkable resemblance to each other. These come with a built-in color monitor, speaker(s), full controls (some with remote control), some with batteries, and carry handles or cases. Very useful for on the road business displays.

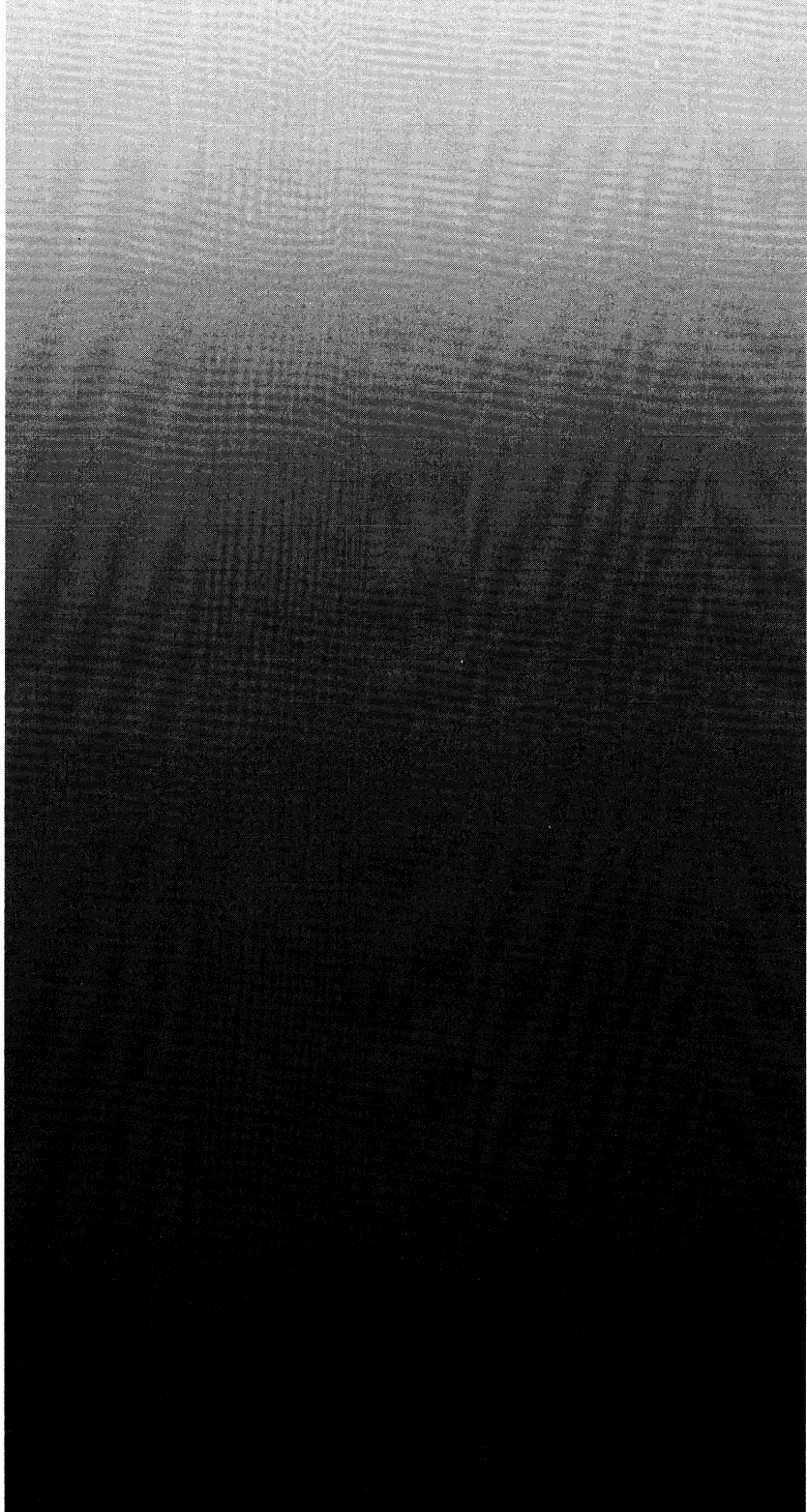
VIDEO PRINTERS

Some color printers can accept a video signal and produce a full color printout. If you have a need for this capability we know of at least two suppliers for these units: Biflyx and Gulton (see Chapter 7, Vendor Reference).

VIDEO TAPE

Finally, a few words about video tape. Video recording heads are expensive to replace; buy the best tape you can afford. Drop-outs are annoying; buy the best tape you can afford. If you want to know more about tape, read the two articles by Neil Heller in the April '86 issue of Video Systems Magazine (see Vendor Reference in Chapter 7).

NOTES



NOTES

1 DON'T READ THIS!

A reference section is meant to be referred to, not read. Just as you wouldn't normally contemplate curling up with a good dictionary or encyclopedia, neither should you feel it necessary to read and digest this section of the manual. You should, however, refer to it whenever you want to refresh your memory or learn more about a particular feature of the program. Thus, if you want a quick explanation of the Fetch effect, you should look it up here, rather than digging through the tutorials in the hope of finding an explanation there. For this reason, it is important that you be aware of the way the information in this chapter is organized, so that you can find it with a minimum of effort.

Section 2 of this chapter covers the two different kinds of scripts, Video and Scene, and explains the hierarchical structure of the program. Sections 3 to 5 cover the basic components of a video, the Tracks and Effects, describing each one and explaining how the two interact under different circumstances.

Section 6 describes all the menu items and explains their various roles in the creation, storage and playback of a video. A working knowledge of **DeluxeVideo**'s menu items is essential for getting the most out of the program. Section 7 is a brief Glossary of computer and **DeluxeVideo** terms, and Section 8 is a Vendor Reference that includes vendor, magazine, and association listings.

2 SCRIPTS

The first step in building a video lies in creating the **Script** that describes what is going to happen and when. **DeluxeVideo** recognizes two different kinds of script: the **Video Script** and the **Scene Script**.

VIDEO SCRIPT

The **Video Script** represents the highest level in the hierarchy of a video (refer back to **Figure 3**). The kinds of **Tracks** and **Effects** that are used in a video script relate to the entire video, not just to a single scene. Thus, every video consists of exactly one video script, while each video script contains exactly one video track. In addition to the video track, a video script recognizes four other kinds of tracks: Background, Foreground, Control, and Music. These are covered in Section 4. A video script consists of the following elements:

TIME BAR: To help you keep track of what happens when, the video script has a time bar running across its top. Time is represented in seconds and 60ths of seconds ("jiffies"), so that 20:15 represents 20 and 15 sixtieths of a second.

SCRIPT CAPACITY GAUGES: The vertical bar at the left of the script is a "fuel gauge" and represents the current capacity of the script in terms of tracks and effects. This gauge monitors how much memory the current video is using.

TRACK AND EFFECT ICONS: The two miniature icons at the upper left-hand corner represent an empty track and an empty effect. To introduce a new track or effect into a video, drag the corresponding icon into the appropriate area of the script.

SCROLL BARS: The vertical bar at the right of the script lets you scroll the script up or down, while the one at the bottom lets you scroll left or right. To scroll, move the mouse pointer to the appropriate arrow and hold down the mouse button. Alternatively, you can click in the grey areas next to the scroll bars to move one screenful up, down, left or right, or you can simply drag the scroll bar itself with the mouse pointer.

SCENE SCRIPT

A video is comprised of one or more scenes, each with its own script. The **Scene Script** (see Figure 4) represents the next level down in the video hierarchy, and is similar to the video script in a number of important respects. Thus, a scene script has a Time Bar, as well as its own repertoire of tracks and effects. A video can be made up of a number of scene scripts, only one of which is visible at any one time.

A scene script works the same way as a video script except for the types of tracks that it uses. A scene script can use any of eight different types of tracks: Background, Foreground, Control, Picture, Object, Sound, Text Line, and Polygon Text.

The black areas on the Time Bar represent the duration specified by the Scene Effect in the Video Script. Effects cannot be placed outside of the black areas. To make a scene longer, drag the Off arrow to the right on the track's time line. To make a scene shorter, drag the Off arrow to the left on the track's time line.

3 TRACKS AND EFFECTS

Scripts, whether Video or Scene, are made up of **Tracks and Effects**. Each Track represents a definable part of the video, such as a picture, an object, a sound, a piece of music, or a string of text. An Effect, on the other hand, represents something that is done to that part, such as a wipe or a jump cut. Effect boxes sit on the "tail" of their respective tracks, and determine the type of effect, as well as its beginning and end.

To move a track within a script window, drag the body of the track (the box on the left) with the mouse. You can insert space within a group of tracks by holding down the left (closed) Amiga key as you drag. This causes all the tracks below it to move, thereby making room for the newcomer. This provides an easy way to add track space to a crowded script.

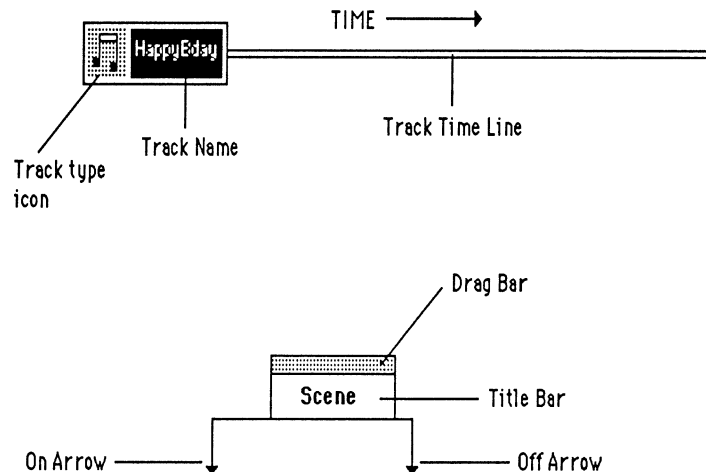


Figure 56: Tracks and Effects

You can also move an effect box around its track by dragging one or more of its four parts. For example, to reposition an effect box without disturbing its on and off times, drag it by its title bar (see

Figure 56). However, if you want to move the entire effect, use the yellow drag bar at the top. The two arrows resting on the track's tail determine the beginning and the end (and hence the duration) of the effect. These are the On and Off arrows. You can move each arrow by dragging it along the track. Note that when you press the mouse button on the On arrow, the time elapsed since the beginning of the script is displayed above the Time Bar. When you press the mouse button on the Off arrow, the Time Bar shows how much time has elapsed since the beginning of the effect, thereby showing its duration. Because some effects do not have a duration, they do not have an Off arrow.

You can manipulate the On and Off arrows in other ways as well. For example, the time scale, which you can set from the Options menu lets you set the number of seconds that will fit in the width of the script window, thereby determining the number of jiffies represented by each pixel on the screen. Even though the program's default setting is 15 jiffies in a Video Script and 3 jiffies in a Scene Script for each pixel of movement along the track, you can obtain smaller incremental time changes without changing the time scale by pressing the left and right arrows on the keyboard while holding down the mouse button. Thus each press of the right arrow with the mouse button down adds one jiffy, while each press of the left arrow subtracts one jiffy. In addition, if you hold down the left (closed) Amiga key before adjusting a start time, all effects on the same track with a start time greater than or equal to it will shift an equivalent amount. Holding down the right (open) Amiga key will do the same thing on all tracks. This allows a simple way to insert and delete time into the script without affecting the relative timing of subsequent effects.

TRACK AND EFFECT PRECEDENCE

Track priority determines which of two objects on the screen will appear in front of the other. *DeluxeVideo* makes this determination on the basis of the relative placement of the tracks in the script. In particular, a track at the top of the script will have priority over the tracks below it, which means that the objects in that track will appear *in front of* the objects in the lower tracks. Thus, a text line in a higher track will appear in front of a text line in a lower track.

A similar relationship exists between different effects on a track. In general, effects are performed on the basis of their start time, so that a track with an earlier start time will be performed *before* an effect with a later start time. If two effects have the same start time, precedence goes to the effect with the title bar *beneath* the other. Thus, if Effect A is beneath Effect B on the track, then Effect A will be performed first, even though they may have the same start time.

SIMULTANEOUS EFFECTS

When you put multiple simultaneous effects on the same track, the ultimate effect depends on the type of track and the type of effects. Because not all combinations are predictable, you should feel free to experiment with different ones. Meanwhile, here are some general guidelines:

If each of the simultaneous effects controls an independent property of the track, then the ultimate effect is predictable. Thus, you can manipulate color, size and rotation simultaneously, and have polygon text, for example, move, rotate and resize all at the same time. On the other hand, simultaneous effects that are mutually exclusive, such as an appear during a move, or two simultaneous movements, are more difficult to predict. It is likewise ambiguous to have a colors effect at the same time as a fade in.

4 TRACKS

The following is a description of all the tracks available in **DeluxeVideo**, together with a list of the corresponding effects and scripts.

VIDEO

Effects: Scene
Scripts: Video (only one per video)

Each video contains exactly one video track, which cannot be added or deleted. The sole purpose of this track is to allow you to break up your video into a number of manageable scenes. These scenes are analogous to acts in a play. And just like acts in a play, scenes cannot overlap.

CONTROL

Effects: Chain, Keywait, KeyChain
Scripts: Video, Scene (only one per script)

The control track allows you to interrupt or otherwise manipulate the video while it is playing. Thus, by using the Chain, KeyChain or Keywait effects you can pass control from the current video in memory to another video on disk. For example, you can link together a number of different videos even though only one is currently in memory. The Chain effect links the videos together automatically, in whatever order you specify. KeyChain, on the other hand, requires the viewer to press a particular key to continue. You can use this feature to present the viewer with a multiple choice, where the next video in the chain depends on which of the keys the viewer presses. Finally, Keywait allows you to pause the video until any key is pressed. This is a useful feature when you are recording a video to a VCR or when you want to make a slide presentation and use keyboard input to trigger each slide.

MUSIC

Effects: Fetch, Play, Half Vol, Dble Vol
Scripts: Video

The music track allows you to insert music into your video. You can choose the piece of music through the Music Requester (see **Figure 57**). The Music Requester lists all the files it finds in the music drawer. When you click a tune in the "On Disk" column, **DeluxeVideo** opens the file and checks that it's an IFF file in SMUS format. (Electronic Art's **Deluxe Music Construction Set** and **Instant Music** produce SMUS files that can be read by **DeluxeVideo**.) **DeluxeVideo** then displays a requester listing the names of all instruments the tune needs and prompts you to insert an instrument disk. If you choose "Cancel," **DeluxeVideo** will use the RAM instrument, which sounds something like a piano. If you choose "Load," **DeluxeVideo** opens the instrument drawer and looks for the required instruments. Although the requester shows the name of the instrument drawer **DeluxeVideo** is looking in, you will not be able to change it at this point. To change it, click **Cancel** and then discard the music you just loaded by clicking the trashcan icon. Change the instrument drawer by choosing **Drawers** from the **Options** menu and then go back and reload the music. If no instruments are named in the music file, **DeluxeVideo** will look for a file named "Default" in the instrument drawer instead.

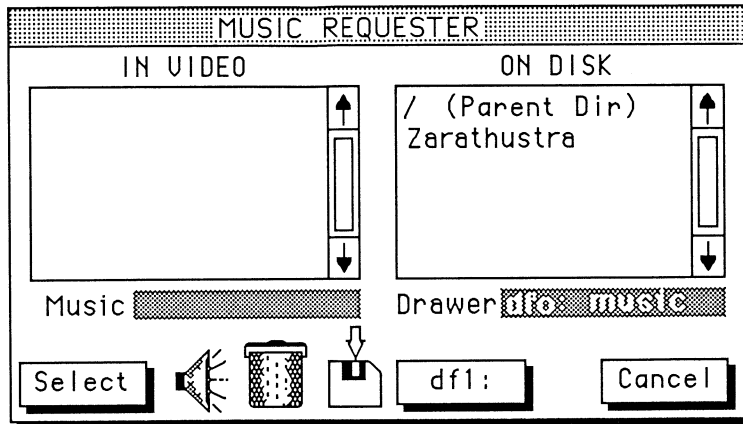


Figure 57: Music Requester

When **DeluxeVideo** finds the instrument, it reads it into RAM and then writes it into the video file. If it doesn't find the instrument, **DeluxeVideo** searches the instrument drawer for an instrument named "default." If it can't find the default instrument, it uses the RAM instrument instead. After it finishes the instrument search, **DeluxeVideo** displays a list of the instruments actually used. Note that if you play a tune through the Maker (e.g., by clicking the speaker in the Music Requester or Play Effect Requester) it is played using the RAM instrument. However, the correct instruments (or as many of them as will fit in RAM) are used when the Player is running.

Once a song is highlighted in the In Video box, you can preview it by clicking on the speaker icon. Clicking the speaker a second time stops the music. You can select a different song by clicking on its name in the In Video box. Clicking on the trashcan icon removes the currently selected song from the video (but not from the disk), while clicking on the disk icon saves the current song onto disk. You can use music created with other Electronic Arts music products (such as **Instant Music** or **Deluxe Music Construction Set**) or any other music product that creates "SMUS" IFF files. Finally, pressing **Select** chooses the current song for the music track.

Note that if you have a problem loading an instrument from an **Instant Music** disk, you will see a requester that comes up, letting you change the instrument name or drawer. You can then substitute a different instrument, if the one requested is too big for memory; or look on a different disk or in a different drawer if it couldn't be found.

Music Capacity: Up to 4 tracks per tune; up to 8000 bytes per track; up to 28000 bytes per instrument.

BACKGROUND

Effects: Clear, Wipe, Colors, LockClrs, Size, CycleClr, Fade In,
 Fade Out, Pattern, Cut
 Scripts: Video, Scene (only one per script)

The background track represents the visible background. Effects placed on a background track will affect whatever is currently in background, whether a picture or a pattern.

TEXT LINE

Effects: Appear, DisApp, Move To, Stamp
 Scripts: Scene

A text line is string of text that uses one of the system fonts (see your *Amiga User's Manual* for more information on system fonts). When a text line appears in a video, **DeluxeVideo** searches the fonts drawer on the system disk for the required font. If it finds the font, it loads it into memory; if not, it uses the default font. This means that if you add a new font to your Maker disk, you also need to add it to the Player disk for the font to appear correctly.

You enter text by means of the Text Requester (see **Figure 58**). Click in the text gadget to activate it and type in your line of text. You can preview what you have typed by clicking the TV icon. If you change any of the text, you will not be able to see the changes you have made on the video screen unless you press RETURN or click the TV icon. You can change fonts by scrolling the font list by means of the

up and down arrows and then clicking the desired font. If the TV icon is selected, you will be able to see the text change fonts dynamically.

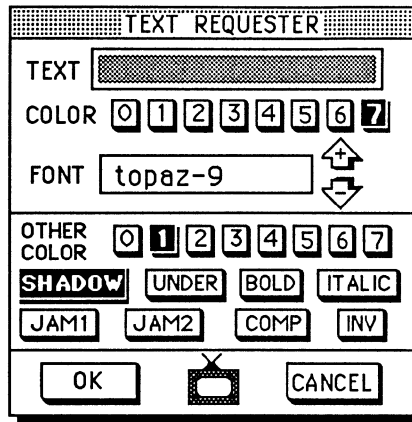


Figure 58: Text Requester

In addition to the different fonts, you can choose various text attributes such as shadow, underline, bold, and italic. And you can choose from four color modes as well: **JAM1** displays the text using only the primary color, while **JAM2** uses the primary color for the text and fills the box surrounding the text with the secondary color. (The primary color is referred to as "Color," while the secondary color is referred to as "Other Color" in the requester.) **COMP** complements (i.e., reverses the bit pattern) the area in the video screen where the text appears. **INV** produces different effects depending on whether **JAM1** or **JAM2** is selected. Thus, with **JAM1** selected, **INV** creates transparent text surrounded by the primary color while with **JAM2** it switches the primary and secondary colors, displaying the text in the secondary color surrounded by the primary color.

OBJECT

Effects: Fetch, Appear, DisApp, Move To, Stamp, Size, AnimSeqn, AnimCycle
 Scripts: Scene

Objects are images that reside in the foreground that are usually smaller than a full screen. You choose objects through the Object Requester (see Figure 59) which appears whenever you specify an Object track. The Object Requester presents you with a list of objects that are on disk and a list of objects that are in memory ("in video"). You can bring an object into memory by clicking on its name in the requester. This places the object name in the IN VIDEO column of the Object Requester. You can also load objects from the external drive by clicking the box labeled "df1:" at the bottom of the requester. Clicking df1: switches you to that drawer, and the names of the objects it contains appear in the ON DISK column of the requester. Click on those names to bring them into memory.

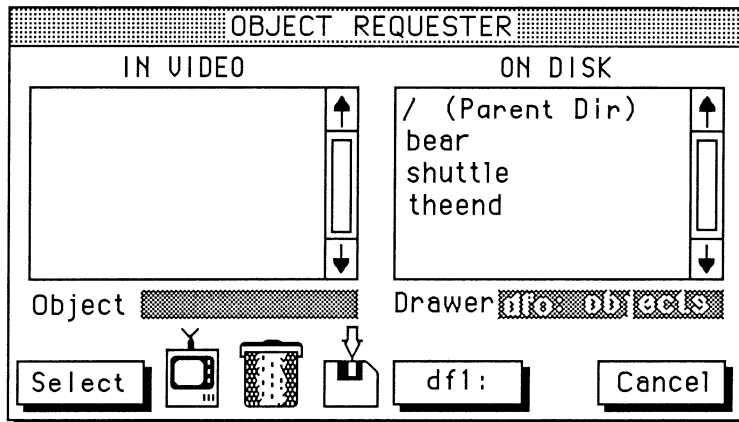


Figure 59: Object Requester

Once an object is IN VIDEO and highlighted (i.e., has a box surrounding its name) you can preview it by clicking on the TV icon at the bottom of the window. This brings up the video screen. You can hide the video screen by clicking the TV icon a second time, by clicking the "front-to-back" gadget or by dragging it down by its drag bar at the top. To highlight a different object in the In Video

box, just click on the new object's name. You can remove the currently highlighted object from the video (but not from the disk) by clicking on the trashcan icon, or you can save the current object onto disk in the Objects drawer by clicking the disk icon. This is useful if you wish to copy an object onto another disk. You can also load **DeluxePaint** brushes as objects (see below). Make sure you look for them in the drawer you saved them in while using **DeluxePaint**. Finally, to select an object to place onto an Object track, press **SELECT**.

If you create an object using **DeluxePaint**, remember that **DeluxeVideo** can only display seven colors in a foreground. So when using **DeluxePaint** you can use up to seven colors, but make sure you use the first color in the palette as the background color, which will be transparent in **DeluxeVideo**. When you have finished drawing your object, save it as a brush in the Objects drawer of a Parts disk.

If you want to use several different objects at the same time in the same video, make sure that they use the same palette. You can do this either by using the same palette when you first draw them, or by forcing them to use the same palette when you load them into a video. Do this by choosing the "Best Colors" option when you load the first object, and then the "Current Colors" option when loading the other objects. Alternatively, you can force a new object to use the same palette as an object already in the video by first displaying the existing object by clicking the TV icon, and then loading the new object and choosing the "Current Colors" option.

If you receive a "Not Enough Memory" error while loading an object, try choosing Clear from the Edit menu. This marks all objects and sounds as not in use, thus making the maximum amount of memory available for loading. You can then try loading the object again.

SOUND

Effects: Fetch, Play
Scripts: Scene

Sounds are digitized sound effects, and are otherwise identical to the music tracks described above. **DeluxeVideo** will load any sound that is stored in IFF 8SVX format. Sounds are limited to around 28000 bytes, unless you have more memory than 512K.

You load sounds in the same way you load music: by clicking the name of the sound in the On Disk column of the Sound Requester (see **Figure 60**). If you receive a "Not Enough Memory" error while loading a sound, try choosing Clear from the Edit menu. This marks all objects and sounds as not in use, thus making the maximum amount of memory available for loading. You can then try loading the sound again.

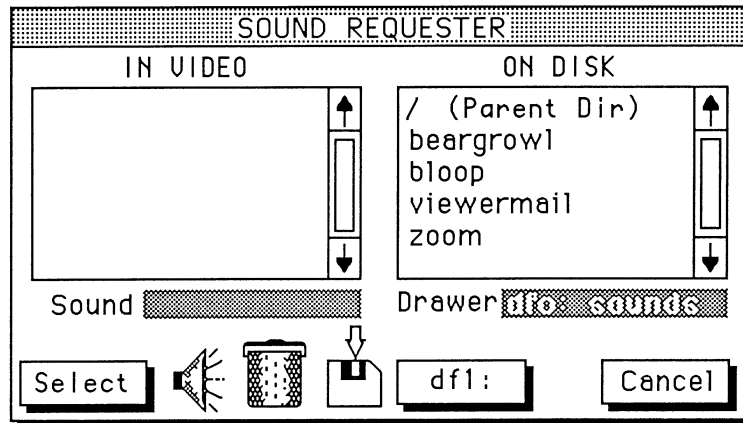


Figure 60: Sound Requester

PICTURE

Effects: Wipe, Load, Fade In, Fade Out, Cut
Scripts: Scene

Pictures are identical to objects as described above, except that they reside only in the background and are always full screen size. You can use pictures from **DeluxePaint** or other graphics products that can output IFF files. Remember to limit your pictures to eight colors. If the picture was created using more than eight colors, **DeluxeVideo** will reduce the number of colors to eight. If you want to use

DeluxeVideo with a genlock device, make sure you use Color 0 as the background color in your video.

Load pictures from the Picture Requester (see **Figure 61**) in the same way you load other files, by clicking on the object name in the requester's On Disk column. For more information, see loading Object files, above.

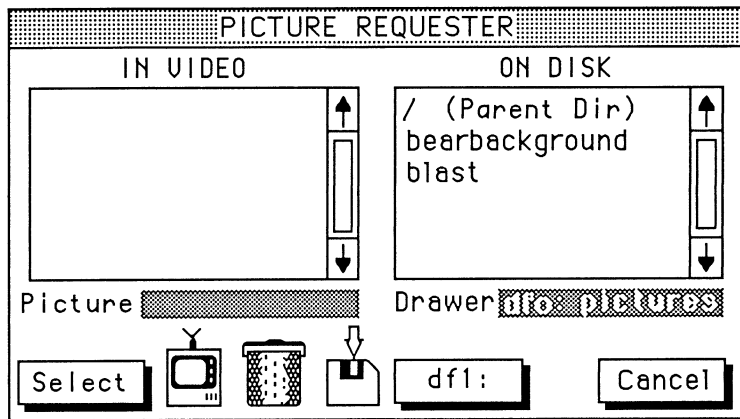


Figure 61: Picture Requester

FOREGROUND

Effects: DisApp, Colors, Stamp, Strobe, LockClrs, CycleClr, Fade Out

Scripts: Video, Scene (only one per script)

The foreground track controls the visible foreground. Effects placed on a foreground track in the video script will affect whatever is currently in the foreground, such as text, objects, etc. For more information on the visible and hidden foregrounds, see Chapter 4, Section 1.

POLYGON TEXT

Effects: Appear, DisApp, Move To, Stamp, Size, RotateTo,
Scripts: Scene

Polygon Text is a unique kind of text that lends itself to special effects such as rotation and resizing. This is because Polygon Text is 3-dimensional (unlike regular text, which is 2-dimensional). You can control polygon text through the Polygon Text Requester (see **Figure 62**). This requester is similar to the Text Requester except that you do not specify a font (since there is only one polygon font). To enter text, click on the text gadget and type in your text. You can then preview your text on the video screen by clicking the TV icon at the bottom of the requester. Clicking the TV icon a second time turns off the video screen. You can also specify a fill pattern for your text by clicking on one of the patterns in the lower part of the requester. When you are satisfied with your text, click OK to return to the script. You can get back to the Polygon Text Requester at any time by double-clicking the track box. Polygon Text is ideally suited for short titles that flip, rotate, expand, and shrink.

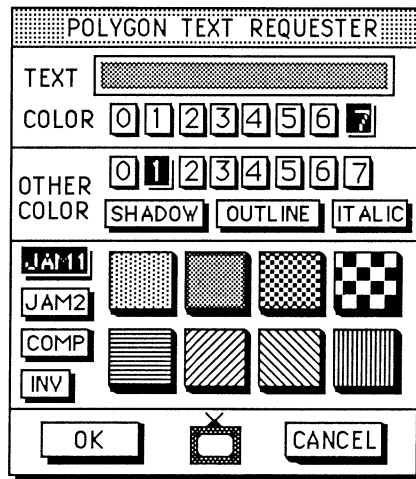


Figure 62: Polygon Text Requester

In addition to the alphanumeric characters available as polygon

text, **DeluxeVideo** includes a set of special polygons you can manipulate in the same way. These special polygons are accessible through Control key sequences as set out in the following table. Click on the text gadget in the Polygon Text Requester, and type the Control key sequences just as you would use the alphanumeric characters. Note, however, that because of the limited ROM font, the special characters are all displayed in the same way in the Polygon Requester.

Ctrl-A:	square	Ctrl-M:	floppy disk
Ctrl-B:	right triangle	Ctrl-N:	octagon
Ctrl-C:	right triangle	Ctrl-O:	circle
Ctrl-D:	down arrow	Ctrl-P:	another arrow
Ctrl-E:	another triangle	Ctrl-Q:	bent arrow
Ctrl-F:	diamond	Ctrl-R:	right arrow
Ctrl-G:	isocles triangle	Ctrl-S:	star
Ctrl-H:	parallelogram	Ctrl-T:	cartoon balloon
Ctrl-I:	pentagon	Ctrl-U:	up arrow
Ctrl-J:	hexagon	Ctrl-X:	times sign
Ctrl-K:	check mark	Ctrl-Y:	division sign
Ctrl-L:	left arrow		

The pie chart and bar chart polygons created by the scene generators are special cases of polygon text that you cannot generate directly. The shadow attribute of polygon text is displayed only when a polygon is rotated to zero degrees in all axes.

5 EFFECTS

Each kind of track in **DeluxeVideo** has a corresponding set of effects. The following is a description of all the types of effects that are used in **DeluxeVideo**, together with notation showing the corresponding track or tracks, whether the effect uses a requester, and whether you need to specify a duration.

SCENE

Tracks: Video
Requester: No
Duration: Yes

This effect can only exist on the Video track. When you place an empty effect onto the Video track in a video script, it automatically becomes a Scene effect. Scenes allow you to break up a video into manageable pieces, in the same way as a stage play is comprised of a number of acts. Think of the video as a play, and the scenes as the different acts within the play. And just like acts in a play, scenes cannot overlap. If you try to move a scene so that it would overlap with another it will simply revert to its original position.

When a scene ends, all the related foreground tracks disappear. To make a text line, object, or polygon text stay visible from one scene to another, make sure the succeeding scene's On arrow exactly overlaps the preceding scene's Off arrow. In addition, you need to duplicate the preceding tracks in the succeeding scene with an immediate Appear effect (i.e., so that the Appear effect's On arrow shows a start time of 0:00).

CHAIN

Tracks: Control
Requester: Yes
Duration: No

Chaining allows you to link together several videos to make one long video. When you add a Chain effect to a Control track, you are presented with a Chain Requester (see Figure 63). The Chain Requester asks for the name of the video that will be linked to the current one. To enter the name, click on the text gadget and type in the name. Click OK to return to the script window. Now move the effect's On arrow to the point where you want the new video to begin. You can always return to the Chain Requester by double-clicking the appropriate chain effect box on the Control track. You can chain together as many videos as you like, limited only by your disk storage space.

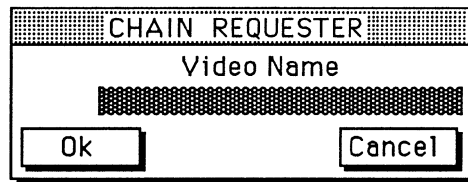


Figure 63: Chain Requester

Note that chain effects are not performed when you are running the Maker, but only when you are running the Player. Furthermore, any effects in the script after a chain effect are never played. Finally, when videos are chained, the screen is not cleared and the colors are not reset. Thus, some videos will have to be changed if they are chained and you would like to restore their original effect.

KEYWAIT

Tracks: Control
Requester: Yes
Duration: No

The Keywait effect lets you pause the video at any specified point. The video will resume play from that point when the viewer presses a particular key or when a specified period of time has elapsed, whichever occurs first. You can specify the key to be pressed as well as the timeout period through the Keywait Requester (see **Figure 64**). Click the key gadget to put a cursor there and then type in the key value. If you want to change an existing value, click the gadget and press the DEL key to delete the current value. Type in the new value. If the key value is left blank, then any keypress will cause the video to resume.

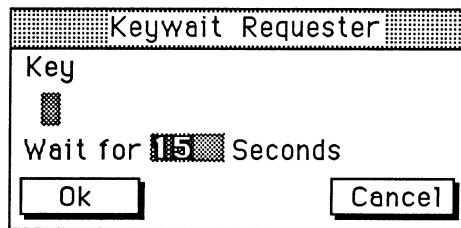


Figure 64: Keywait Requester

You can specify the timeout period in the same way: click inside the timeout gadget and then delete or backspace over the existing value. Type in the new value. Note that the timeout period defaults to 15 seconds. This means that if a key is not pressed, the video will resume playing automatically after 15 seconds. You can specify any timeout period up to 9999 seconds (or 2.78 hours).

KEYCHAIN

Tracks: Control
Requester: Yes
Duration: No

The KeyChain effect is a combination of the KeyWait and Chain effects. With KeyChain you can chain together up to 10 different videos and assign a particular key to each one. Pressing one of the keys results in the playing of the corresponding video. In this way

you can create a "tree" of conditional events, with each event dependent on its corresponding keypress. You can use this effect as a kind of programmed instruction, in which the viewer enters different branches of the tree depending on each keypress.

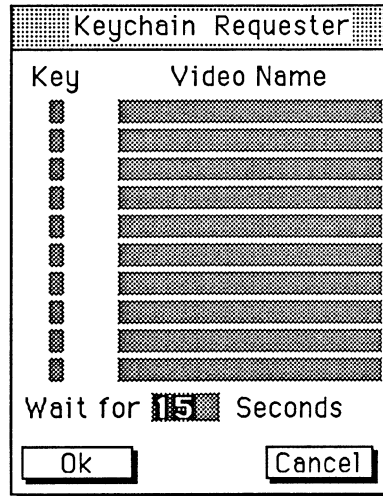


Figure 65: KeyChain Requester

You specify the keys and their corresponding videos through the KeyChain Requester (see Figure 65). To enter the values in the requester, click in the appropriate gadget and type in the values. Note that you can specify a timeout period similar to that in the Keywait effect. If no key has been pressed by the end of the specified period, *DeluxeVideo* will continue playing the current video. For true programmed instruction, where the viewer needs time to decide on the next keypress, you will need to specify a value greater than the 15 second default. To enter or change a timeout value, click the timeout gadget, delete or backspace over the existing value and type in the new one. When you are satisfied with the values, click OK to return to the Script window, where you can position the effect's On arrow. Chain effects are not performed when running the Maker, but only when running the Player.

FETCH

Tracks: Music, Object, Sound
Requester: No
Duration: No

When **DeluxeVideo** executes an effect such as **Appear** or **Play**, it has to load the corresponding object or sound off the disk if it is not already in memory. Such disk access at a crucial time could interrupt the smooth flow of the video. For example, suppose you want two objects to collide with a corresponding sound effect. For best results, the motion should be smooth and the sound should occur at the exact moment when the objects appear to collide, not after an unpredictable disk delay. To avoid such delay you should use the **Fetch** effect to preload an object or sound into memory before it is needed, thereby eliminating disk access during critical times. However, because it has a low priority with respect to memory allocation, yielding to objects and sounds that must appear or play at a particular time, the **Fetch** effect may not always work. This is because whenever **DeluxeVideo** encounters a **Fetch** effect, it tries to load the sound or object into the **Part** pool (see the discussion on **Memory Map** and **Memory Size** below for more on the **Part** pool). If **DeluxeVideo** finds there isn't enough room, it will purge from memory any sounds that are not currently being played and any objects that are not currently visible, and will make another attempt to fetch. Thus, by blindly placing **Fetch** effects on every sound or object track, you may succeed only in having one **Fetch** effect undo another. The **memory map** option (from the **Options** menu, see **Section 6** in this chapter) can help in determining the optimal placement of the **Fetch** effect. Note that it may sometimes be possible to use an **Appear** effect instead of a **Fetch** effect by having the object appear offscreen where it won't be visible.

PLAY

Tracks: Sound, Music
Requester: Yes
Duration: Yes

The Play Effect Requester for sounds lets you specify the rate and volume for each sound (see Figure 66a), while the Play Effect Requester for music lets you specify the tempo and volume of the musical passage (see Figure 66b).

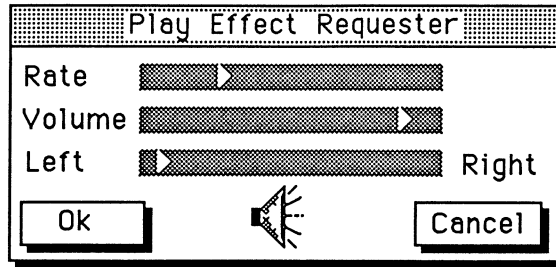


Figure 66a: Sound Play Effect Requester

To change one of these variables, move the pointer to the appropriate slide and drag it to the desired position.

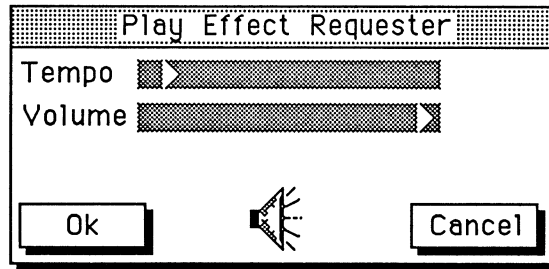


Figure 66b: Music Play Effect Requester

You can preview the changes you have made by clicking the loudspeaker icon at the bottom of the requester. (Music played through this requester is played with the default RAM instrument.) Note that any changes you make do not operate dynamically, that is, they will not be apparent until the piece finishes playing and you click the loudspeaker icon again. When you are satisfied, click

OK to return to the script window. There you can specify a Play effect's duration by moving the Off arrow relative to the On arrow.

When you extend the duration of a Play effect beyond the physical length of a sound or musical passage it causes that sound or piece of music to replay as many times as will integrally fit within the effect. To avoid a noticeable pause when a piece is repeated, you may want to lengthen it with a music program rather than having it repeat. Setting the duration of a Play effect on a piece of music shorter than its physical length will cause it to stop playing early. In any case, a piece of music may not end exactly at the end of the Play effect because time spent loading from disk is not counted on the clock (see Chapter 4, Section 5). Once a sound effect starts playing, you cannot stop it until it finishes.

HALF VOL

Tracks: Music
Requester: No
Duration: No

This effect reduces the volume of a piece of music by 50%. You would use this effect to temporarily reduce the volume of a music track so as to make the accompanying sound effects more noticeable. You can position the Half Vol effect box anywhere on a music track, and it will halve the volume beginning from the effect box's On arrow.

DBLE VOL

Tracks: Music
Requester: No
Duration: No

This effect doubles the volume of a piece of music, and is otherwise identical to the Half Vol effect described above.

CLEAR

Tracks: Foregrnd, Backgrnd
 Requester: No
 Duration: No

This effect erases everything from the visible foreground or background (see Chapter 4, Section 1, "DeluxeVideo: A Technical Overview,") beginning at the point of the effect's On arrow. In doing so the background buffer is erased to 0 and cut into the visible background.

WIPE

Tracks: Backgrnd, Picture
 Requester: Yes
 Duration: Yes

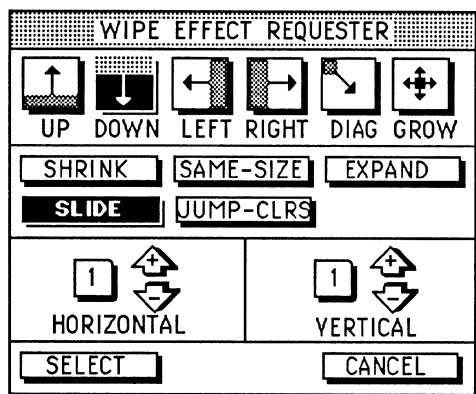


Figure 67: Wipe Effect Requester

The Wipe effect copies whatever is in the hidden background into the visible background (see Chapter 4, Section 1, "DeluxeVideo: A Technical Overview"). You can select different patterns through the Wipe Effect Requester (see Figure 67). You can also specify the style and direction of the wipe by clicking the up, down, left, right, diagonal, or grow icons in the requester. In addition, you can specify the number of horizontal and vertical divisions of the wipe (e.g., a 4

by 2 grow wipe) by clicking the appropriate plus or minus buttons. If you want the picture to do something in addition to the wipe, you can select one of four wipe modifiers: **shrink**, **same-size**, **expand**, and **slide**. If you are wiping a picture with a different color palette, the old palette will fade to the new one as the picture is wiping. You can choose **Jump-Clr**s to defeat this effect. When you are satisfied with your selections, click **Select** to return to the script window. There you can position the wipe effect's On and Off arrows to specify its onset and duration.

COLORS

Tracks: Backgrnd, Foregrnd
 Requester: Yes
 Duration: Yes

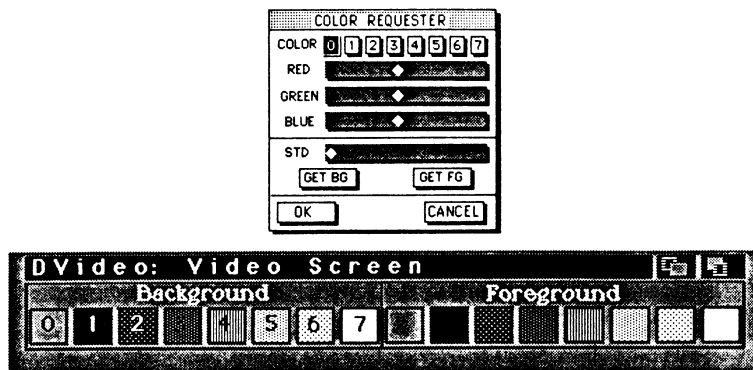


Figure 68: Color Effect Requester

The Color effect lets you fade the current palette to a new one over the duration of the effect. You can change the current palette for the foreground or background through the Color Requester (see Figure 68) by specifying the Red, Green, and Blue (RGB) values of each of the eight colors (0 - 7) in the palette. To change a setting, click the color you wish to change, drag the appropriate slide to the desired position and release the button. Or you can click anywhere within the gadget to move the slide one increment to the right. You can also choose from a set of standard palettes by using the **STD** slide. Just drag and release the slide or click in the gadget to move the slide one increment to the right. The two settings "Get BG" and "Get FG" allow you to use the current background or foreground palette for the current application. Thus if you are on a Foreground track and you select Get BG, *DeluxeVideo* will import the background palette for use in the foreground. When you are satisfied with your new settings, click OK to return to the script window. There you can then set the onset and the duration of the effect by setting the On and Off arrows of the effect box.

You can also use the Colors effect to fade in a foreground object, a special effect that cannot be achieved by direct means. First use the Show option from the Edit menu (see Section 6 below) to show the object on the Video screen, and then bring down a Colors effect and select Get FG in the Color Requester. This sets the color palette to the colors of the object. Now set your Object and Foreground tracks as shown in Figure 69 below. Here's how it works: Fade Out sets all foreground colors to the same color as Color 0 (which is transparent), and then LockClrs locks them so they are not changed by the Appear effect. Finally, the Colors effect gradually sets the foreground to the object's colors so that it seems to fade in. Note, however, that you can fade in an object with this technique only when it is done against a solid background of the same color as the foreground Color 0.

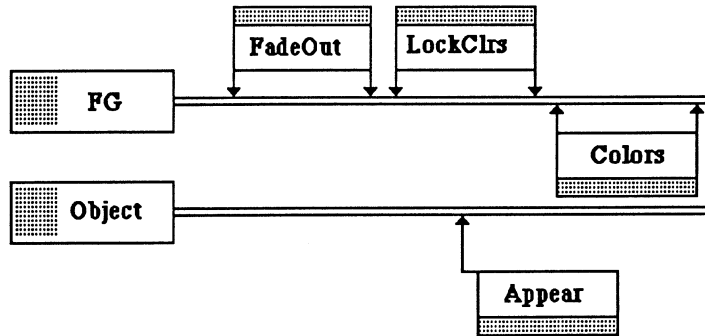


Figure 69: Fading in a Foreground Object

LOCKCLRS

Tracks: Foregrnd, Backgrnd

Requester: No

Duration: Yes

When a picture is copied onto the visible background (by means of a wipe, for example), or when an object appears in the foreground, its color palette, by default, takes priority and the background or foreground palette is changed to match. You can defeat this action by use of the **LockClrs** effect. You can specify the onset and offset of this effect, and hence its duration, by adjusting the On and Off arrows on the effect box.

SIZE

Tracks: Object, Polygon, Backgrnd

Requester: Yes

Duration: Yes

You can make the width and height of an object or polygon change

over time by using the Size effect. The Size Effect Requester (see **Figure 70**) lets you specify the final size as a percentage of the original size. You can specify the height and width independently of each other. Just click appropriate plus or minus arrow to change the setting. When you are satisfied with the new settings, click OK to return to the script window. There you can adjust the onset and duration of the effect by manipulating the On and Off arrows. Note that you can resize a background, although the final effect is not always predictable. Try it first to see if the final result suits your purposes.

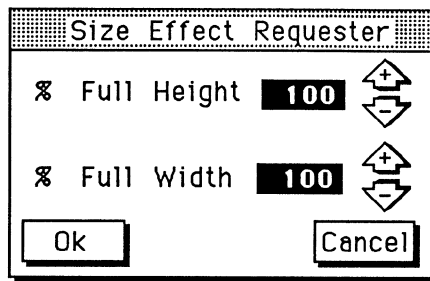


Figure 70: Size Effect Requester

CYCLECLR

Tracks: Backgrnd, Foregrnd
 Requester: Yes
 Duration: Yes

The CycleClr effect lets you cycle through selected colors in the color palette. You can specify the colors as well as the cycling rate through the Cycle Colors requester (see **Figure 71**).

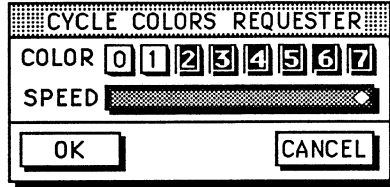


Figure 71: Cycle Colors Requester

To select a color for cycling, click on the corresponding number in the requester to highlight it. Clicking the color a second time deselects it. To select a cycling speed, drag the slide in the speed gadget to the left or right, or click anywhere else in the gadget to move the slide one increment to the right. When you are satisfied with the settings, click OK to return to the script window, where you can set the effect's onset and duration by setting the On and Off arrows.

FADE IN

Tracks: Picture, Backgrnd
 Requester: No
 Duration: Yes

Fade In lets you copy the hidden background into the visible background (see Chapter 4, Section 1). Thus you can fade in from the visible background to the hidden background over a period determined by the effect's duration. You can control the rate of the fade by moving the Off arrow relative to the On arrow. If you want to fade a picture in from black, you can use Fade Out (see the section immediately following) just before Fade In. Note that colors are all faded in from Color 0, not from black. This means that if you want to fade in from black, you need to have Color 0 set to black.

FADE OUT

Tracks: Picture, Backgrnd, Foregrnd

Requester: No

Duration: Yes

Fade Out works by changing the color palette so all eight colors are the same color as Color 0. You can control the rate of the Fade Out by moving the Off arrow relative to the On arrow. As with Fade In, above, if you want to fade to black, you need to set Color 0 to black. If you have foreground and background objects, you may find that fading them both the same will look the best.

PATTERN

Tracks: Foregrnd, Backgrnd

Requester: Yes

Duration: Yes

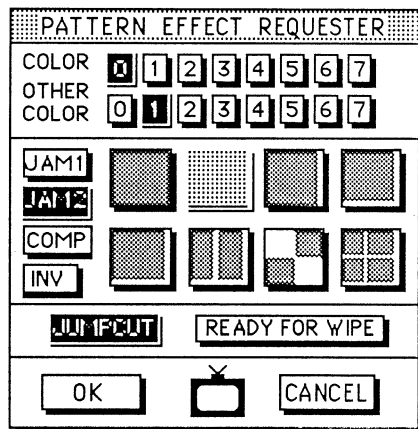


Figure 72: Pattern Effect Requester

The Pattern Effect Requester (see **Figure 72**) lets you specify a textured pattern to fill the foreground or hidden background (see Chapter 4, Section 1). Click on one of the eight patterns to select it. You can also specify the color or colors that will make up your selected pattern by clicking on the appropriate color boxes at the top of the requester. Selecting JUMP CUT causes the pattern to appear in the foreground or visible background while READY FOR WIPE causes it to remain in the foreground or hidden background until a subsequent wipe or cut effect. Click the TV icon to preview the selected pattern. If Strobe is in effect, using the Pattern effect in the foreground is a quick way to mask the entire background. See "7.4.5 Text Line" above for information about JAM1, JAM2, COMP, and INV.

CUT

Tracks: Backgrnd, Picture
 Requester: No
 Duration: No

On a Background track the Cut effect copies the hidden background into the visible background immediately. On a picture track the Cut effect copies a picture into the visible background. In either case, place the effect's On arrow where you want the cut to take place.

APPEAR

Tracks: Text Line, Object, Polygon
 Requester: Yes
 Duration: No

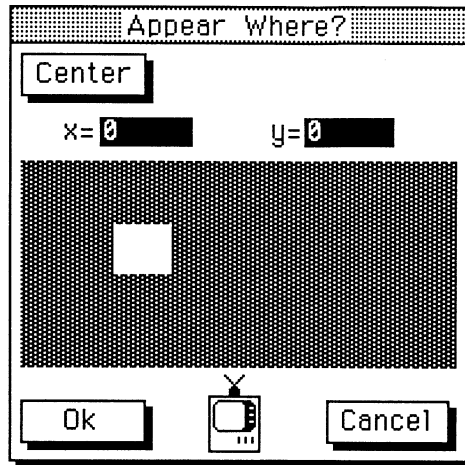


Figure 73: Appear Requester

The Appear effect specifies where and when an object, text line, or polygon will appear. Specify the location by dragging a scaled rectangle in the Appear Requester (Figure 73). You can make an object, text line, etc. begin its journey offscreen by moving the small rectangle against one of the edges of the large rectangle. By clicking the TV icon, you can drag the actual object or text line on the video screen. You can return to the requester by clicking the "front-to-back" gadget at the top right of the video screen, or by dragging the screen down with the left mouse button. Click OK to return to the script window, where you specify when the object will appear by adjusting its On arrow.

DISAPP

Tracks: Text Line, Object, Polygon, Foregrnd
 Requester: No
 Duration: No

The DisApp effect causes an object, polygon, or text line to disappear at the specified point on the track. If you place the DisApp effect on the foreground track, everything in the foreground will disappear.

MOVE TO

Tracks: Text Line, Object, Polygon
Requester: Yes
Duration: Yes

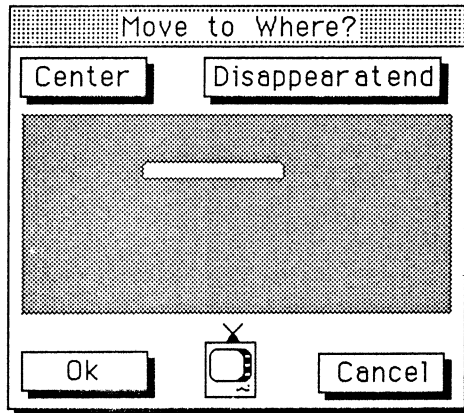


Figure 74: Move To Requester

This effect moves an object, text line, or polygon from its current position to a new location over a specifiable period of time. You can specify the new location through the Move To Requester (see **Figure 74**). The Move To Requester is similar to the Appear Requester (see **Figure 73**). The Move To Requester gives you the additional option of making the object disappear at the end of its journey. Just click **Disapp At End** to exercise this option. Note also that an object will appear at its default location (where it was saved with **DeluxePaint** or **Framer**) if you don't have a preceding Appear effect on the track.

STAMP

Tracks: Text Line, Object, Polygon, Foregrnd
Requester: No
Duration: No

Stamp copies foreground items and "stamps" them into the background, where they become part of the background. The Stamp effect conserves memory and processing time by using a static, background copy of an object instead of the object itself. This tactic is most useful when a dynamic object (which uses up memory and processing time) moves to a specific location and stays there, not moving again for the remainder of the scene. By stamping it into the background and making it disappear from the foreground, you no longer have to carry its "overhead." Note that stamping will affect the color palette if the Foreground and Background are using different palettes. In particular, the Background palette will change to the palette of the object being Stamped.

ANIMCYCLE

Tracks: Object
Requester: No
Duration: Yes

AnimCycle makes an object loop through its full animation sequence as fast as it can within the specified duration. Use the Framer in conjunction with pictures from **DeluxePaint** or other graphics programs to create animation effects. For more complex animation effects, use AnimSeqn, below. See Chapter 3, Section 4, and Chapter 4, Section 3 for more information on the Framer.

ANIMSEQN

Tracks: Object
Requester: Yes
Duration: Yes

The AnimSeqn effect (no, you don't have to pronounce it) lets you specify a frame sequence for an animated object. You do so by typing

an alphabetic string, up to 40 characters (e.g. "abcd", "ababcb"), into the Sequence gadget in the Animate Sequence Requester (see Figure 75).

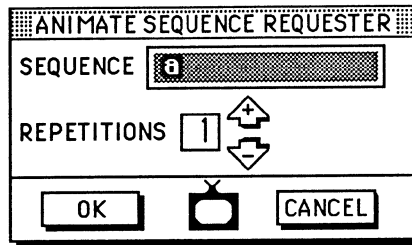


Figure 75: Animate Sequence Requester

Each letter in the alphabetic string represents one of the cels in the animation sequence, so that *a* represents cel 1, *b* represents cel 2 etc. Thus, *abbcd*a over a one-second effect means *show the first cel during the first 1/6 second, show the next one over the next 2/6 second, show the third cel during the next 1/6, the fourth over the next 1/6 second, and the first cel over the last 1/6 second.* For more information on animation and The Framer, see Chapter 3, Section 4, and Chapter 4, Section 3.

The AnimSeqn effect works best if it occurs during a simple scene played at a rapid frame rate. In general, if an AnimSeqn effect is *x* characters in length, is repeated *y* times and plays for *z* seconds, it will look good only if the video is simple enough to play at a frame rate of less than $z/(x \text{ times } y)$ seconds per frame; otherwise frames will be skipped and you'll get the same effect that makes wagon wheels seem to roll backwards in TV westerns.

To enter your sequence, click the Sequence gadget to put a cursor there and then type in your sequence. Press RETURN to complete the transaction. Click the TV icon to preview the individual frames of a sequence. You can also set the number of times the sequence will repeat (within the duration of the effect) by clicking the plus or minus arrows next to the Repetitions box. When you are satisfied with your settings, click OK to return to the script window, where you can set the duration of the effect by adjusting its Off arrow.

LOAD

Tracks: Picture
Requester: Yes
Duration: No

This effect loads a picture into the hidden background (see Chapter 4, Section 1, "Deluxe Video: A Technical Overview"). Whenever you specify a Load effect, the Load Effect Requester (see Figure 76) gives you the choice between "Cut" and "Get Ready."

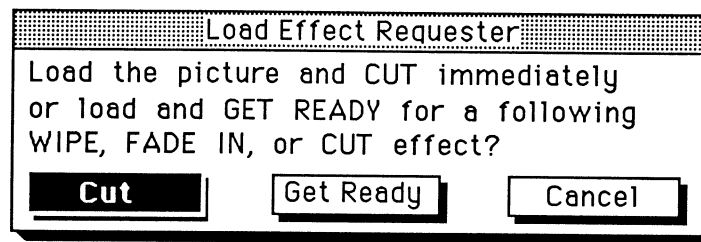


Figure 76: Load Effect Requester

When you select Cut, the picture is copied into the visible background, and will appear at the beginning of the effect. If you select Get Ready, the picture remains in the hidden background until a subsequent wipe, cut, or fade in effect.

STROBE

Tracks: Foregrnd
Requester: No
Duration: Yes

By selecting Strobe in a Foreground track, you can have a moving object leave a trail of itself behind it. Strobe does this by turning off the foreground "hidden-visible" switch (see Chapter 4, Section 1) for the duration of the effect. You can adjust the duration of the effect by moving the Off arrow relative to the On arrow. Remember: The more action going on, the longer it takes to create the hidden foreground and the slower the frame rate. This results in fewer "trails."

ROTATE TO

Tracks: Polygon
Requester: Yes
Duration: Yes

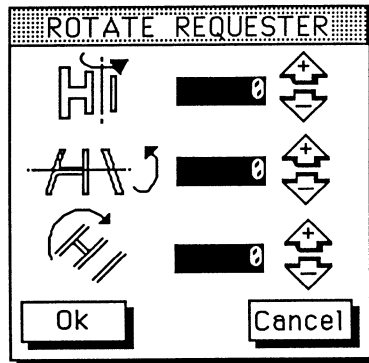


Figure 77: Rotate Requester

Through the Rotate effect you can specify a polygon's rotation about three orthogonal axes. A rotation of 360 degrees is one full rotation about an axis. Click the plus or minus arrows for each of the three axes (see Figure 77) to specify the polytext's final position, measured in degrees from its original position. Rotations are absolute orientations from zero. This means that a rotation setting of 90 degrees always results in the same orientation of the object, irrespective of immediately preceding orientation. Click **OK** to return to the script window, where you can set the duration of the effect by adjusting the Off arrow.

6 MENUS

DeluxeVideo's menus remain hidden at the top of the screen until activated by a press of the right mouse button. To select a menu item, hold down the right button and drag down from the menu bar until the desired item is highlighted, and then release the button. You can also access some menu items by using keyboard equivalents, such as Right Amiga-N, for example, which means hold down the Right Amiga key and press N at the same time. Keyboard equivalents are shown next to the menu item where applicable. Some menu items include secondary menus, which appear to the right of the selected item. To select a secondary menu item, move the pointer to the right of the primary item, drag down until the secondary item is highlighted and then release the button. The following is a description of each of **DeluxeVideo's** menu items, classified by menu:

PROJECT MENU

The Project menu provides you with global control over your files, including the video currently in progress. Through the Project menu you can save and load files, and play individual scenes and videos.

ABOUT DELUXE VIDEO: The authors of **DeluxeVideo** take a bow.

NEW (Right Amiga-R): Open a new video file.

OPEN...(Right Amiga-O): Open (load) an existing video file from disk. Selecting **Open...** presents you with a File Requester showing the names of the videos contained on the disk (see **Figure 78**). You can switch disks at this point. To select a file, click on the file name and then click **Open**. You can select files from a disk in the external drive by clicking **df1:** and then proceed as above. To return to the internal drive, click **df1:** a second time.

SAVE (Right Amiga-S): Save the video currently in memory under the current file name. Use this menu item when you have previously saved a video and you wish to save the current version under the same name. This menu item is unavailable for a previously unsaved

file; to save a file for the first time, select **Save As...**, described below.

SAVE AS...: Give a name to the video currently in memory and save it to disk. Use this item when you are saving a file for the first time. The Save Requester lets you specify a name and a drawer for your file. To name a file, click in the File gadget, backspace or delete over any file name already there and type in the new name. Press RETURN to complete the transaction. Note that you can enter any existing file name just by clicking that name in the top part of the requester. When you have named your file, you can save it by clicking **Save**. If you wish to switch drives click **df1:** before you save.

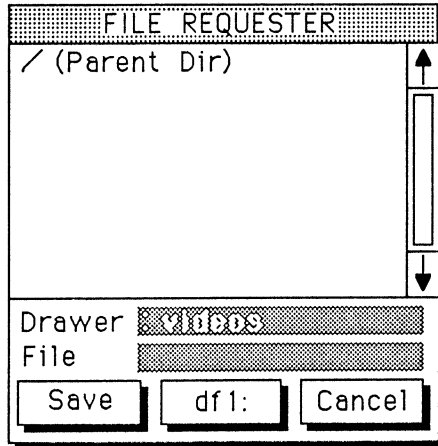


Figure 78: File Requester

PLAY SCENE (Right Amiga-K): Play the currently selected (highlighted) scene. This item is not available if no scene is currently selected. To select a scene, click on the corresponding scene box on the video track.

PLAY VIDEO (Right Amiga-L): Play the entire video currently in memory.

QUIT (Right Amiga-Q): Exit the program. **DeluxeVideo** will prompt you to save the video in memory.

EDIT MENU

The Edit menu provides you with various script editing functions such as cutting and pasting, and enabling and disabling selected effects.

CUT (Right Amiga-X): Removes the currently selected items (tracks or effects) and places them onto the Clipboard. The Clipboard is a temporary repository or storage area for items that have been cut or copied (see **Copy**, below). Entire scenes can be cut only one at a time.

COPY (Right Amiga-C): Places a copy of the currently selected items (tracks or effects) onto the Clipboard. Entire scenes can be copied only one at a time.

PASTE (Right Amiga-P): Places a copy of the Clipboard's contents into the current video. When you select Paste, a ghostly outline of a track (or effect) box accompanies your pointer. When you click the left mouse button, the box is pasted at the pointer location. Entire scenes can be Pasted only one at a time.

TURN ON: Re-enable the selected items that were previously disabled by the **Turn Off** option (see below).

TURN OFF: Temporarily disables the selected items so they will have no effect when the video is played, making it an effective debug tool. To re-enable disabled items, reselect them by clicking them once (you can select more than one item at a time by holding down the Shift key as you click subsequent items) and choose **Turn On** from the Edit menu. This feature lets you isolate items (tracks or effects) so you can view them independently of the others.

CHANGE: Modify the parameters of the currently selected item. When you select **Change**, you are taken to the next level in the video hierarchy. Thus, if you are in the Video Script and you select an item (by clicking on it) and then select **Change**, you will be taken to the Scene Script for that item. Similarly, if you choose to **Change** an item at the Scene Script level, you will be taken to that item's

requester. As a shortcut, you can double-click on an item to go to the next level in the hierarchy.

RENAME: Change the name of the currently selected Scene. Choosing this item brings up a requester with the current scene name as the default. To enter a new name, click on the text gadget, backspace or delete over the existing name and type in the new name. Click **OK** when done. If you change your mind you can click **Cancel** to return to the previous screen without affecting anything.

SHOW (Right Amiga-J): Use this option to coordinate the positions of text, polygon text, and objects on the screen. When you select **Show**, **DeluxeVideo** displays the video screen showing the position of the object (picture, text, etc.) which is the subject of the currently selected track or effect. Thus, for example, by selecting an **Appear** effect on a track and then selecting **Show**, you will be able to see exactly where it is that the object (etc.) will appear. You can now do the same thing for a second object (by selecting its effect box and then selecting **Show**), thereby making it possible to see both objects on the video screen at the same time. **Show** makes it easy to position an object or text line relative to another because the video screen retains the image of a **Show**-ed object until you **Clear** it (see **Clear**, below). Tracks that can be **Shown** include **Pictures**, **Objects**, **Text** and **Polygon Text**. Effects that can be **Shown** include **Appear**, **Move To**, **RotateTo**, **Size**, **Colors**, **DisApp**, **Load**, **Clear**, **Stamp** and **AnimSeqn**.

CLEAR (Right Amiga-E): Clears the video viewing screen (see **Show**). Does not otherwise affect your file.

CLOSE SCENE: Closes the Scene Script window and redisplay the Video Script window. (Performs the same function as clicking the close box at the top left corner of the Scene Script window.)

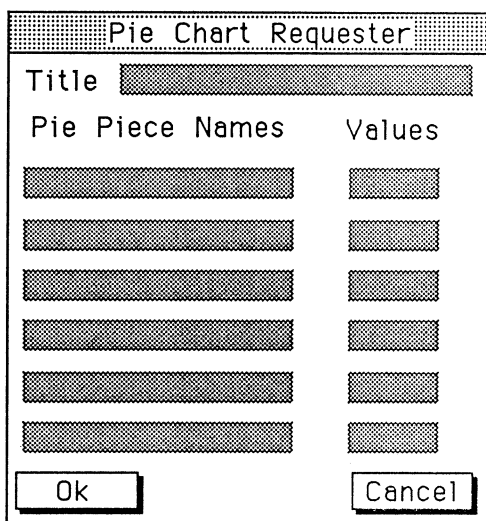
SCENES MENU

The Scenes Menu contains scene generator templates that can build entire scenes automatically. All you have to do is specify the parameters.

SCENE WITH PICTURE: Use this option to **wipe** a picture of your choice onto the screen. Each time you use this option, **DeluxeVideo**

automatically chooses a different wipe. You can use **Scene with Picture** only if there is a selected (highlighted) scene effect on the video track. In addition, you need to specify the picture to be wiped through the Picture Requester (see **Figure 61** and accompanying text). By stringing a series of pictures together you can easily create your own slide show.

LOAD SCENE GENERATORS: When you select this option **DeluxeVideo** loads a set of scene generators from disk and modifies the menu accordingly. The new menu retains the **Scene with Picture** option (see above) and adds two new items, each with its own set of secondary menu items. The first of these, **Charts**, provides you with two further choices, **Pie Chart** and **Bar Chart**.



The image shows a dialog box titled "Pie Chart Requester". It contains a "Title" field at the top. Below it is a table with two columns: "Pie Piece Names" and "Values". There are six rows of input fields for these columns. At the bottom of the dialog are "Ok" and "Cancel" buttons.

Pie Chart Requester	
Title	
Pie Piece Names	Values
Ok Cancel	

Figure 79: Pie Chart Requester

Each type of chart comes with its own requester, ready to receive the information that will go to make up the scene. In the case of **Pie Chart**, the scene is an animated pie chart, with each segment appearing from a different part of the screen before coming to rest in the center (see Chapter 3, Section 5, "A Piece of Cake"), while the **Bar Chart** shows the data growing in a series of bars. To use either

the **Pie Chart** or **Bar Chart** templates, you need to have an empty scene effect highlighted on the video track. Some scenes (like **Titles**) may require certain pictures or objects before **DeluxeVideo** can proceed with the scene generators. If you are prompted to do so, go to the **Parts** menu and put the required parts "IN VIDEO."

Bar Chart Requester	
Title	
Bar Names	Values
Ok	Cancel

Figure 80: Bar Chart Requester

Click on each gadget in the requester (see **Figures 79 and 80**) and type in the required data (labels and figures). Click **OK** to return to the script window. The duration of the effect is set automatically to accommodate the amount of data in the chart. However, you should make sure you have enough room on the track before the next effect.

Text, the final menu item in the **Scenes** menu, contains four templates for generating text effects. These are available as secondary menus, and include templates for generating titles, credits, a text "slide show" and a final "The End" to put (where else?) at the end of your video. Except for "The End," each of these templates has its own requester. To enter text, click each text gadget and type your message. When you are done, click **OK**.

PARTS MENU

The Parts menu gives you control over the parts that comprise your video. Primarily, this acts as a central maintenance area where you can copy parts from different disks into your videos.

PICTURES: See **Figure 61** (earlier in this chapter) and accompanying text for information on using the Picture Requester.

OBJECTS: See **Figure 59** and accompanying text for information on using the Object Requester.

SOUNDS: See **Figure 60** and accompanying text for information on using the Sound Requester.

MUSIC: See **Figure 57** and accompanying text for information on using the Music Requester.

OPTIONS MENU

The Options menu is a miscellaneous menu through which you can customize various aspects of your videos. For example, through the Options menu you can reset the time scale, rename your data drawers and perform other "housekeeping" tasks.

TIME SCALE: The default duration for a Video Script window is normally 120 seconds. This means that at any given moment, the Video Script window can represent up to 120 seconds of your video.

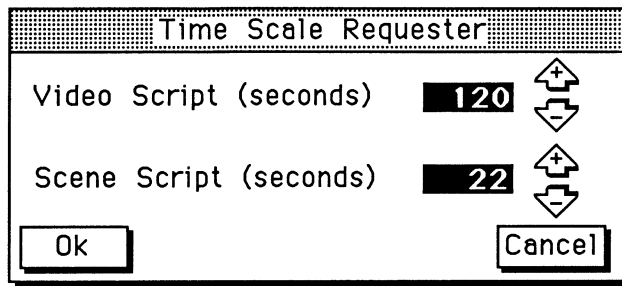


Figure 81: Time Scale Requester

(This does not limit the length of a video, but only how much of it is visible in one window). You can vary this setting through the Time Scale Requester (see Figure 81), which lets you cram up to 4800 seconds into one window.

The Video Script and the Scene Script each have their own time scales. To adjust the time scale for a Scene Script, you have to have the script window on screen when you call up the Time Scale Requester. To adjust either the Video or the Scene Script time scale, just click on the plus or minus arrows as appropriate and then click OK to return to the script window.

DATA DRAWERS: Use this option to reset the storage disk specifications for your data drawers. For example, you can store all your sounds on "df1:sounds" and your music on "df0:music." (df0: and df1: is Amigaspeak for the internal and the external drives, respectively, so if you are using only the Amiga's internal drive, everything should be set to df0:).

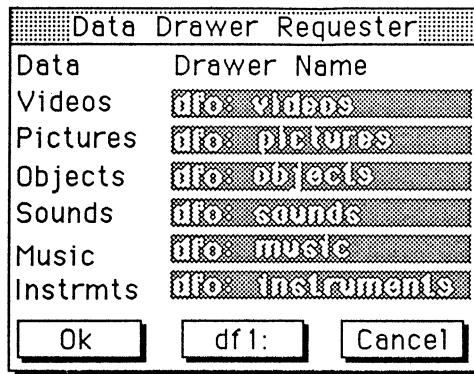


Figure 82: Data Drawer Requester

To change any of the default settings, click the appropriate gadget (see Figure 82), delete the existing setting, and type in the new one. If you want to change all your data drawers to df1:, click the df1: box at the bottom of the requester to erase the df0: specifications and click it again to change them to df1:. Click OK to return to the script window. Any changes you make during a work session apply only to that session unless you use the Snapshot option, described below.

MEMORY MAP: When you select this option, **DeluxeVideo** places a graphical representation of the Part Pool as a function of time above the time bar (see Figure 83). By studying the Memory Map, you can see how much memory each part of the scene uses. Bright yellow areas represent places in the script where there are more parts than the available memory can accommodate.

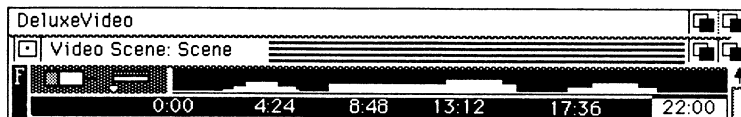


Figure 83: Memory Map

RESTART: With this option checked, the video cycles through an endless loop until instructed to stop, a useful setting for in-store

demos. You can also set recycling through the remote-control panel in the video screen (see Chapter 1, Section 3).

SPEED: This option lets you select your video's playback speed. See Chapter 4, Section 5 for more information on this option.

MEMORY SIZE: If your Amiga has more than 512K bytes of RAM, you can use this option to adjust the size of the Part Pool. The Part Pool is a portion of RAM that holds the sounds and objects while they are being used in a video. Because the Part Pool is of a limited size, there is a limit to the number of objects and sounds that can be used at a time. For example, the Instruction video on the Player disk uses two different animated objects, the Walking Professor and the Pointing Professor. Because each of these is a sequence of images, and hence relatively large, they cannot both fit into the Part Pool at the same time. You can remedy this to some extent by allocating more RAM to the Part Pool, thereby making it possible to produce videos that use more large objects and sound effects.

The standard (default) size Part Pool is 36,000 bytes; medium size is 72,000 bytes, and large size is 200,000 bytes. If you try to change the size of the Part Pool, **DeluxeVideo** checks to see if you have enough memory. If not, you will receive an error message. If you do have enough, the new size is marked on the menu. (That is, if you do have more than 512K of memory and you select Large under the Memory option, you get a requester asking "How large?") However, to use the augmented Part Pool, you need to take a "Snapshot" of the options (see Snapshot, below), and then quit and restart **DeluxeVideo**. Your choice of the Part Pool size is stored in the **DVideo.options** file. When you first start **DeluxeVideo** it reads the file and attempts to create a Part Pool of the specified size. If it finds there is insufficient memory, the Part Pool size reverts to small (the default). However, you should note that a video created with a medium or large Part Pool cannot be played on an Amiga with only 512K of RAM.

SNAPSHOT: This saves the current option parameters to disk, so that next time you run **DeluxeVideo**, it will know to use those settings as the defaults. Snapshot saves the Data Drawer names and the memory size option in the **DVideo.options** file.

RESET: This resets the snapshot to the default parameters.

INTERLACE: Using this option doubles the number of horizontal lines onscreen (from 200 to 400), representing a compromise between lo-resolution and high-resolution modes. While this option increases the vertical resolution of your video, the disadvantage is that, with most monitors, Interlace produces a flickering effect because it is painting each horizontal line every 30th of a second instead of every 60th of a second. "High persistence" monitors can overcome this to some extent, since they cause the image to persist longer than the rate of flicker.

OVERSCAN: On a 512K Amiga, **DeluxeVideo** creates videos with borders (320 x 200 pixels). Those of you with 1MB of memory can use the Maker to make videos without borders by selecting the Overscan option (expanding videos to 352 x 240 pixels). This is important when making videos for taping on a VCR, where a TV-like appearance is essential and where borders are undesirable. Using Overscan, **DeluxeVideo**'s Pattern effect will fill the full screen and foreground objects can move all the way across the screen rather than from border to border.

If you've only got 512K of memory, however, you can still use Player to play a video created in Overscan mode. Play the Presentation video on the Player disk to see what Overscan looks like. Note that the Player runs a little differently in Overscan mode. There is no screen title at the start and end of a video. And when the remote control is visible, the screen is shifted down 20 pixels and right 16 pixels. To show the Overscan screen centered in its proper place, press the "To-back" button on the remote. The remote and mouse pointer will become invisible. Keep in mind too, that while regular-sized 320 x 200 pictures can be mixed with oversized 352 x 240 pictures in the Overscan mode, oversized pictures cannot be used in non-Overscan videos.

DeluxePaint II can be used to create pictures for use in Overscan, by using the Full Video option for page size in the Picture menu. To set page size in **DeluxePaint II** for use with Overscan, simply go to the Picture menu and select Page Size. The "Set Page Size" requester gives you Width and Height gadgets that allows you to type in the size you want. It also gives you three default sizes Standard (320 x 200); FullPage (320 x 340) or Full Video (352 x 240). Select Full Video when creating pictures for use with Overscan.

7 GLOSSARY

8SVX - IFF FILE: This is a sampled sound file, and if it is not over 24K Bytes can be used as a sound effect by **DeluxeVideo**. It can also be used as an instrument file.

ASSEMBLED EDIT: A type of video edit where each video segment is assembled in serial fashion, one section at a time.

AUDIO DUB: Adding audio tracks to a video tape without altering the existing video.

AUDIO MIX: The act or art of combining separate portions of audio into a final product.

BIT MAP: The technical term for what you see on your monitor. All computer generated images exist in the computer's memory as bit maps, and are converted to a video signal before being displayed.

BOOT DISK: A disk that your Amiga will accept when it asks for a Workbench disk. Generally your Workbench or application disk.

CEL: Animation using the Framer is created from a sequence of separate images. Each image is a separate cel. Originally, animations were hand drawn, each on a separate piece of celluloid, hence the term.

CHIP MEMORY: The first 512K of RAM on the Amiga. All graphics and sound events must occur in this address space.

COLOR 0: The color in the Amiga's first color register. Also the place where genlocked live video will show through. See Color Registers.

COLOR PALETTE: The range of colors used by Deluxe Video. There are two color palettes, the Foreground and Background Palettes. Each may contain eight different colors.

COLOR REGISTERS: The total range of colors selectable on the Amiga is over 4,000. However it can only display 32 at one time. To keep track of which colors it is currently displaying, a table of

pointers 'remembers' which colors are selected. By pointing to another color, an instantaneous color change can be created. By pointing the entire table to black, a fade is created. These pointers are the color registers.

COLOR WHEEL: A tool for making decisions on color combinations. It is also useful for learning about color theory.

EDIT POINT: The moment in time on a video tape where an edit occurs. Also the physical place where the edit takes place.

EXTERNAL SYNC: Some video devices are capable of accepting synchronizing information from external devices. This is useful in editing, genlocking, and special effects creation. See Sync.

FAST MEMORY: Also known as expansion RAM, extra memory, or RAM disk. This is generally used to describe additional RAM added to the Amiga over the first 512K of RAM.

FLOW CHART: A diagram of the chain of events in a video. Useful in creating a coherent presentation, and in determining the elements that will be required to build your video.

GENLOCK: A device that allows for the overlaying of one video display over another.

HARD DISK: A data storage device that has as advantages faster access times and larger storage capacity. Its disadvantages include high cost, non-removable storage media, and susceptibility to physical shock.

IFF: A data file standard for the Amiga. There are IFF formats for graphical and audio information. The use of the IFF format allows various applications to share data files.

INS1: IFF file. This file specifies the type of instrument a musical score will be played with.

INSERT EDIT: A type of video edit where a new video segment is edited in between existing video segments.

PIXEL: Picture element. More commonly thought of as a single point in a video display.

PREROLL: The laws of inertia apply to video recording decks. As a result it takes some appreciable amount of time for them to come up to speed. By rolling the video tape back a few seconds, the deck can come up to speed before it gets to an edit point. This is prerolling.

PUNCH AND CRUNCH: Assemble editing using a single playback deck and no edit controller. A technique not known for great final results and not acceptable for professional level work.

SMPTE TIME CODES: Used to assign an 'address' to every frame of video or audio. Very useful when editing.

SMUS: IFF file. Musical scores are stored in this file type.

SOUND DIGITIZER: A hardware device for converting sounds into IFF 8SVX files. Highly recommended if you want to create your own library of sound effects, or instrument files.

STEP FRAME: Used to describe a video deck that displays or records a single frame of video.

SYNC: Video signals contain information that controls several events in the hardware displaying the signal. The sum total of this information is sometimes called sync.

VERTICAL BLANKING: One component of sync. The period of time when the video raster is retracing from the lower right corner to the upper left corner of the display. Since during this time the raster is turned off (blanked), this is a good time to do an edit. Professional editing equipment does this.

VIDEO DIGITIZER: A hardware device for converting a video signal into an IFF file.

VIDEO DUB: Adding a video signal to a video tape that already contains an audio signal.

XMODEM: A telecommunications transfer protocol. One of the most widely accepted protocols used, and one of the oldest. Several variants are currently in use.

8 VENDOR REFERENCE

MAGAZINES

Many of these magazines are available free to qualified persons in various applications of professional video. Write for more information if you think you might qualify.

Audio-Visual Communications
50 West 23rd Street
New York, NY 10010
\$13.50/year

AV Video
25550 Hawthorne Blvd.
Suite 314
Torrance, CA 90505
\$18.00/year

Electronic Musician
2608 Ninth Street
Berkeley, CA 94710
\$22.00/year

Studio Systems Journal
POB 13859
San Luis Obispo, CA 93406
\$12.00/year

Video
POB 56264
Boulder, CO 80322
\$25.00/year

Videography
50 West 23rd Street
New York, NY 10010
\$25.00/year

Video Systems
POB 12912
Overland Park, KS 66212
\$25.00/year

ASSOCIATIONS

There are a variety of organizations that can be of benefit in some aspect of video design, production, and distribution.

Interactive Video Association
POB 1491
Evanston, IL 60204
312-364-5888

International Interactive Communications Society
2120 Steiner
San Francisco, CA 94115

VENDOR LIST

Access Associates
491 Aldo Avenue
Santa Clara, CA 95050
RAM expansion

Allen Communication
140 Lakeside Plaza II
5225 Wiley Post Way
Salt Lake City, UT 84116
Vidoe Tape Controller

Applied Visions
15 Oak Ridge Road
Medford, MA 02155
Audio Digitizer

BCD Associates
205 Broadway Tech Center
7510 N. Broadway Ext.
Oklahoma City, OK 73116
Video Tape Controller

Biflyx
311 N. Clara Street
Santa Ana, CA 92703
Video Printer

Brown-Wagh Publishing
16795 Lark Avenue #210
Los Gatos, CA 95030
Fonts

Byte by Byte
3736 Bee Cave Road Suite 3
Austin, TX 78746
Expansion chassis, RAM expansion, hard disk

Cardco
300 S. Topeka
Wichita, KS 67202
RAM expansion

Commodore Business Machines
1200 Wilson Drive
West Chester, PA 19380
Genlock, frame grabber

Comprehensive Video Supply Corp.
148 Veterans Drive
Northvale, NJ 07647
CompuServe: 70356,165
Source: BBC812
Catalog of everything

Computer System Associates
7564 Trade Street
San Diego, CA 92121
68020 expansion board

Comspec
153 Bridgeland Avenue
Unit 5
Toronto, Ontario M6A 2Y6
Canada
RAM expansion

Digi-View
701 Jackson B3
Topeka, KS 66604
Video Digitizer

Gulton Industries
Gulton Industrial Park
East Greenwich, RI 02818
Video Printer

ICM Video
10 N. Lee
POB 26330
Oklahoma City, OK 73126
Distribution Amp

JVC
41 Slater Drive
Elmwood Park, NJ 07407
Video Equipment

Knowledge Industry Publication, Inc.
701 Westchester Avenue
White Plains, NY 10604
Books, newsletters, workshops, etc.

Micro Forge
398 Grant Street SE
Atlanta, GA 30312
Hard disk

Mimetics Corp
POB 60238 Station A
Palo Alto, CA 94306
Audio Digitizer

Pacific Cypress
POB 14180
Fremont, CA 94539
RAM expansion

Panasonic
One Panasonic Way
Secaucus, NJ 07094
Video Equipment

RS Data Systems
7322 Southwest Fwy. #660
Houston, TX 77074
RAM expansion

Sansui Electronics Corp.
1250 Valley Brook Avenue
Lyndhurst, NJ 07071
Video Equipment

Showtime Video Ventures
2715 Fifth Street
Tillamook, OR 97141
Showmaster Creator

Sony Video Communications
Sony Drive
Park Ridge, NJ 07656
Video Equipment

Valiant IMC
Universal Video Division
195 Bonhomme Street
POB 488
Hackensack, NJ 07602
Catalog of everything

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